Design and Related Services

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Innovative * Client Focused * Quality Designs

Proper management of any organization's processes is crucial. One of the Command's most important processes is the delivery of contract plans, specifications and related documents. Our Command, and the engineers/architects who provide professional services for us, have seen this delivery process change substantially over the past few years. This Guide provides the most current information available for design and related services for the Naval Facilities Engineering Command, Atlantic. Engineering is a stable profession, but the design process is dynamic, and with the Internet and rapidly advancing technology, response to change must be even faster and better. We hope this Guide meets this requirement. Please feel free to send us comments so that we may improve its usefulness.

We are well underway with the Electronic Bid Solicitation (ESOL) process. We have done extensive work in signature software development and provided training on this electronic tool to A&Es to assist them in meeting our electronic requirements. A&Es must use referenced policy documents in this Guide to provide proper submittals. A&Es must use new technology and become proficient in the tools to provide this electronic format for our design products.

Continued emphasis is on Sustainable Design, Design-Build and designing within a programmed budget. Sustainable Design is a common sense concept in building design. What we build today impacts the environment of tomorrow and our ability to economically operate and maintain our facilities. As a way of quantifying our Sustainable Design efforts we are focusing more on the LEED certification program developed and administered by the US Green Building Council. The AE community must become familiar with this program and strive to implement it with us. Design-Build (DB) connects to the moving world of faster procurement and creative design techniques. A&Es will provide a "scope of services" for DB contractors in lieu of traditional "plans and specifications" packages, or may participate as a DB team member. Designing to the budgeted amount has become more critical with each year of shrinking budgets. A&Es must become more in tune with cost engineering and the significant differences in bidding climates. Design, that doesn't ensure a project can be obtained for its budgeted amount, is of little value.

Quality is not a buzzword - we still recognize it as a primary element that cannot be compromised in the design process. The Engineering and Design Division is committed to Design Quality Control. Design Quality is our top priority and is the responsibility of the A&E firm. To achieve our quality goal we:

- Expect professional performance from A&Es.
- Insist on attention to details.
- Require A&Es to document and implement their own Quality Assurance Plan.
- Strive for technical, functional, aesthetic and environmentally compatible design solutions responsive to client needs and expectations, which provide a realistic project in terms of constructability and cost.

We appreciate the support of the A&E Community toward achievement of our goals, and the commitment to design excellence for our Navy and DoD clients.

• Introduction

• Design Guidance

Discipline specific design guidance is provided in the below listed documents. They are intended to provide information on criteria, field investigation, basis of design, calculations, drawings, specifications and submittal requirements. It is the designer's responsibility to ensure that they have the latest information available for each discipline prior to starting design and during the course of a design.

Discipline	Document
Architectural/Interior Design	UFC-3-100-10N
Civil Engineering	Civil Engineering Design Guide
Cost Engineering	Cost Engineering Design Guide
Electrical Engineering	UFC-3-500-10N
Environmental Engineering	UFC-3-800-10N
Fire Protection Engineering	UFC-3-600-10N
Geotechnical and Paving Engineering	Geotechnical and Paving Design Guide
Landscape Architecture	UFC-3-200-10N
Mechanical Engineering	UFC-3-400-10N
Specifications	Specification Design Guide
Structural Engineering	UFC-3-300-10N

- Unified Facilities Criteria (UFC) are available at the Whole Building Design web site at the following address: http://www.wbdg.org/ndbm/
  Choose Design Guidance Tab.

- Design Guides listed are located in the Appendices at the end of this section of the Professional Services Guide.

• Philosophy

Prior to commencing design, an Architect-Engineering Firm (A&E) should become thoroughly familiar with current design criteria, standard methods/procedures, guides, specifications, project site conditions, project costs and specific project requirements. Generally, a pre-negotiation conference will be conducted on all military construction funded projects and on other projects of significant magnitude or complexity where we or the A&E determine it will be beneficial.

The A&E should be aware that there are differences between private work and Government work, such as: (1) Government cannot limit bidding to a selected list of contractors known to do good work unless approved in advance under specific and limited circumstances. **In most cases, any contractor can bid.** Therefore, drawings and specification requirements must leave nothing to the imagination. They must be clear, concise, and provide thorough detailing of existing and proposed construction. (2) Department of Defense requires use of Federal, Military, and Industry specifications for procurement of materials and equipment covered by these specifications. Use of these specifications assures non-restrictive competition required in the expenditure of public funds. Proprietary specifications are not allowed **without written authorization**. Failure to grasp these basic differences in rules and policies has been the source of many costly disputes. It is essential that all personnel responsible for execution of an A&E or Engineering Services (ES) contract study this guide and follow the procedures and instructions set forth herein. General instructions cannot cover every situation. Specific

problems relating to a particular project will be jointly resolved in conferences with activity personnel and the project manager (PM.)

Our underlying philosophy is one of responsive, responsible, and defensible design for Navy shore facilities with a commitment to design principles and practices that are requirements-based, logical, and conservative. Our designs must produce facilities that are straightforward and businesslike. They must respond to user needs, but reflect a responsible use of public funds. They must be defensible in terms of scope, cost, and appearance. Appropriate, defensible design is:

Well planned
Effective in function
Appropriate in form and appearance
Cost-effective
Constructable
Adaptable and durable over time

Monumental structures, stylistic applications of ornament, extreme configurations, excessive automation/mechanization, poor choices of utility, electrical or HVAC systems, and exotic landscaping or materials are inconsistent with our objective to create pleasant, efficient and cost effective facilities.

This philosophy is not direction for bare-bones austerity or to eliminate all building amenities. Excellent designs can be responsive, be responsible, fully meet the user's needs, contribute to the shore environment, and reflect the quality and character of the Naval service. The challenge is to strike a prudent balance between need and desire, and between the ideal and the realistic.

Before beginning design, an A&E shall review current applicable policy, criteria, and instructions, and make a thorough study of site conditions and project requirements. If, after an analytical review, the A&E is of the opinion that deviation from Navy policy, criteria or instructions would be of benefit to the government, the A&E shall bring the matter to the attention of the AIC/EIC for a decision. We encourage A&E's to use their ingenuity, talent and professional expertise to develop the best possible design for all elements of a project within the constraints imposed. However, use of untried concepts and materials for which no "track record" exists is discouraged and will be rejected. Those materials, used in projects which in themselves are state-of-the-art, will be acceptable.

- ## Conflicts of Interest

Firms that design, prepare plans and specifications, or cost estimates for a construction contract or procurement of supplies or services, cannot provide construction, supplies or services. This limitation also applies to subsidiaries and affiliates of a firm.

- ## Release of Information Pertaining to Design Projects

A&E's shall give no information concerning a project to anyone other than authorized station personnel, other A&E's performing design of related facilities. During the bidding period, any requests made of the A&E by prospective bidders for clarification or intent of drawings and specifications should be referred to the Director, Construction Contracts Division. However, sources of supply for special equipment may be given to contractors. A&E's should **promptly** notify the project manager of any necessary corrections or clarifications of drawings and specifications. Release in any form of information pertinent to a project under design or construction for publication, for public speeches or address shall not be made without first securing clearance and a release in writing from the

Commander, Naval Facilities Engineering Command, Atlantic. All material for which clearance is desired shall be submitted in duplicate.

- **Data and Material Furnished by the Government**

  Current Engineering and Design Criteria for Navy Facilities, Military Handbooks, NAVFAC Design Manuals, etc., can be found at NAVFAC's Engineering and Criteria web site at: http://www.wbdg.org/ccbref/pa_dod.php?category=pa. It is the A&E's responsibility to become familiar with and stay updated on the most current changes.

  Materials furnished by the Government such as: reference drawings, surveys and soil borings are provided to assist the A&E and are not intended in any way to relieve the A&E or responsibilities, unless otherwise noted by the Contracting Officer. The A&E of record will be totally responsible for all information described in the design documents.

- **Consultation Services**

  During design or study preparation, various disciplines are available for consultation. When an A&E contract is for drawings and specifications preparations, our personnel identify the project by an assigned workflow number or by "P" number. The A&E is encouraged to discuss technical matters with appropriate technical reviewers during each phase of the design, especially during preparation of 35% design documents. The name or initials and telephone number of the reviewer for each discipline is listed on each standard comment sheet returned to the A&E or in each DrCheck comment. Should problems arise in the coordination effort, contact the PM. Written confirmation of discussions should be directed to the PM.

- **A&E Performance Evaluation**

  An evaluation of A&E performance is prepared concurrent with the final review of drawings and specifications or other services performed. This evaluation includes a rating of services performed in such categories as thoroughness of site investigation, quality control procedures and execution, plans/specifications accurate and coordinated, plans clear and detailed sufficiently, management and adherence to schedules, meeting cost limitations, suitability of design or study results, solution environmentally suitable, cooperation and responsiveness, and quality of briefings and presentations.

  Upon completion of the construction contract, a second evaluation is completed by the ROICC with emphasis on quality and constructability of the design; timeliness and response with respect to shop drawing review, clarification of drawings/specification intent and resolution of construction problems, and cooperation.

  The completed evaluation is permanently retained in each A&E's file for review and consideration by future Selection Boards and is distributed to the A&E of record and to other Government agencies (via the Architect/Engineering Contract Administration Support System (ACASS), Portland, Oregon). A&E ratings are available for review by the Designer of Record upon request to the PM.

- **A&E Performance Awards**

  Two programs currently exist to provide recognition of outstanding performance:

  - Awards Program for Design and Related Activities (NAVFACINST 5061.7, latest edition).

Purpose: To set forth scope, policy, procedures and responsibilities for establishment and conduction of the Naval Facilities Engineering Command (NAVFAC) Design Awards Program; to address NAVFAC's participation in design awards programs and competitions of other agencies and organizations; to identify other NAVFAC facilities-related awards programs and clarify their relationship to the NAVFAC Design Awards Program.

- Industrial Incentive Plan. (LANTNAVFACENGCOMINST 4804.1C)

  Purpose: To provide recognition for performance by a contractor in excess of contract requirements, in one or a combination of the following areas: Better Product, Speed of Accomplishment, Savings to the Government, Cooperation beyond the contract terms to serve the convenience of the Command, the Navy, or the U.S. Government.

  This program allows giving special recognition for exemplary performance in delivery of particular aspects of A&E provided services. Two types of awards exist for exemplary fulfillment of one or a combination of A&E services. The first, given by the Commander / Commanding Officer or independent OICC, is the **Certificate of Appreciation** granted for exemplary performance on a contract. The second, given by the Commander, NAVFACENGCOM, is the **Commander's Certificate of Commendation** granted for outstanding performance significantly in excess of contract requirements.

- ## Communications

Direct communication with the design reviewer (AIC/EIC) is encouraged. If you have a question concerning a particular comment, contact your reviewer. It is a requirement to resolve comments prior to the next submittal, see submittal section of this document for details. This may avoid unnecessary re-submittal of plans and specifications due to a misunderstood comment.

• Design Considerations

• Design Excellence

Excellence in architectural design is a primary goal. Accordingly, quality architectural design that is functional, environmentally and energy conscious and compatible with existing elements is required for all projects. Good architectural design is proportional to design effort, not to project cost. Reference UFC 3-100-10N for further design guidance and requirements.

Excellence in design reflects appropriate functional facilities at the lowest practical construction cost, with due consideration for economy of operation and maintenance. Construction materials and equipment must be of a quality that is consistent with the intended use of a facility, reflect local availability and local construction skills. New materials and methods should be considered, but only if they provide an economic or functional advantage.

• Scope of Work

An A&E is restricted to the authorized contract scope of work provided in the contract's Appendix 'A'. Deviations from scope include: incorporating unauthorized changes, increasing the cost above programmed amounts for the project, increases in area, major changes in construction criteria, the inclusion of unauthorized buildings or areas, selection of specific systems or equipment without economic or technical evaluation, or introduction of special equipment. The Project Manager (PM) is authorized by the Contracting Officer to perform general oversight and technical administration of a negotiated contract. In that position, the PM may provide in-scope direction to the A&E, and assure terms of the negotiated services. The PM will administer scope and outside agency interface; and from our Engineering and Design Division, provides criteria and technical oversight. The Contract Specialist is responsible for all contract terms, changes or deviations requiring contract adjustments. No changes to contract scope will be made or additional work authorized without prior approval of a Contracting Officer.

It is the A&E's contractual responsibility to design a facility that can be constructed within funds available and meet design energy targets.

During the progress of work, the A&E should expect minor changes in criteria within general scope of the project and should make necessary adjustments accordingly. Generally the 35% submittal, FACDs, and design charettes are intended to clarify and establish specific requirements of the project. Incorporation of Value Engineering (VE) comments of minor consequence, which should have been evaluated during the 35% design preparation, and changes in functional layout occurring during design review, are considered within the scope of the contract. Should **major** changes in the scope of work be required, a contract modification will be issued.

A member or individual of the A&E firm shall be designated as Project Manager (PM), as such the person shall be fully cognizant of the requirements of the performance schedule. The A&E's PM will work directly with our assigned PM who will furnish design guidance necessary for successful execution of the work.

- ## Construction Schedule

  Construction scheduling, i.e., sequence of events and time of construction, may be required to be submitted per the Appendix 'A'. For projects which involve interruptions of existing building operations or major utility usage, it is the A&E's responsibility to discuss required outages and interruptions with the appropriate station Public Works and operations personnel, and establish a construction schedule for these interruptions. Any required outages, interruptions or sequence of construction operations shall be thoroughly documented in the project specifications, drawings and cost estimate. Where these outages and interruptions adversely impact the project costs or time of completion, notify the PM. A brief description of restrictions and their basis may be required.

- ## Occupational Safety and Health Standards

  "Occupational Safety and Health Standards" are applicable to A&E contracts. The Department of the Army, Corps of Engineers, "Safety and Health Requirements Manual", Federal, State, and local laws, rules, regulations, and special requirements established during fee negotiations, shall form the basis of those requirements. Our particular concern is directed to the individual safety during the performance of contract requirements while on Navy property. The A&E of record (hereinafter referred to as the contractor) has the primary responsibility of assuring the safety and health of the firm's personnel while on Navy property.

  The contractor, in coordination with the using Activity, shall determine all known hazards relating to the project site. Prior to initiating field investigation, the contractor shall ensure that a safety plan is developed and distributed to the Public Works Officer.

  The plans should address as a minimum:

  A. Personal protective equipment required.
  B. Definition of work zone limits.
  C. Special safety precautions included in contract fee negotiations.
  D. Hazard evaluation; e.g., hazards requiring accompanied performance by two or more persons, subsurface or overhead hazards which may be encountered, and special procedures, if any, to be followed, such as asbestos hazards and procedures and decontamination procedures, etc.
  E. Activity point of contact and telephone number to be advised concurrent with site access and in event of emergency.

  The safety plan submitted to the Government shall be for information purposes only.

  The Contractor shall contact the designated Activity point of contact, prior to each site visit.

- ## Economy in Design and Construction

  It is our objective to obtain a functionally adequate, habitable, and economical facility. In the design of all projects, it is Navy's policy to provide functional facilities with durability consistent with their mission. The A&E shall bear in mind that the Government's interest to acquire facilities that are economical in design, construction, operation and maintenance. Accordingly, although due consideration shall be given to appearance, structures shall not entail frills and embellishments and shall not be conceived on the basis of unnecessarily complicated and costly construction systems, materials or equipment.

Although the above paragraph stresses economical design, an A&E is responsible to assure compatibility of new structures with a base activity's architectural character. For people oriented facilities such as: Bachelor Enlisted Quarters (BEQ), Bachelor Officers Quarters (BOQ), dining facilities, lounges, recreation areas, libraries, chapels and theaters, A&E's will be responsible for a totally integrated design. Integrated design means the complete design of a facility, taking into consideration all engineering disciplines involved plus landscape architecture and complete interior design for a comprehensively designed facility. An integrated design achieves harmony of site, landscaping, building design and functional requirements.

- **Selection of Materials**

The objective is to provide functional and economical shore facilities for the Navy establishment. We are not in the research and development business. Consequently, it is necessary to investigate thoroughly all-new materials that have not been proven, or whose promotion is based upon unsupported statements and lists of supposedly satisfied users. Materials must be used in a manner that will afford the maximum service at the lowest life cycle cost. Operation and maintenance costs must be weighed against initial costs to achieve maximum economy. Before deciding upon a specific material for design or specification purposes, the following points shall be considered:

- What is the contemplated life of the facility?
- What are the climatic and operating conditions?
- Will material be used to the best advantage under contemplated conditions, including aesthetics?
- Is material a stock item or does it require special processing?
- What is the availability of material in the area of usage?
- Is the material proprietary or restrictive?

Where new unproven materials are selected, documentation including detailed economic analysis justifying its use may be required.

For overseas locations, A&E's must investigate and consider the types of construction material and trades indigenous to an area.

- **Environmental Considerations**

Asbestos-containing materials (ACM) are commonly found in older building materials and related products. Federal regulations require a facility asbestos survey prior to a renovation, alteration, repair or demolition project that will disturb building materials. EPA-accredited, state-licensed asbestos personnel must do the sampling and preparation of the report, plans and specifications. Firms must have licenses in the state where the construction work is to be accomplished.

Lead-based paint (LBP) and other lead-containing materials (LCM) are found in older building materials (e.g., paints applied prior to 1980, etc.) and other related products. Examples of unique site conditions are contaminated soil, imbedded bullet fragments, or outdoor removals that require special scaffolding and containment. Occupational Safety and Health Administration (OSHA) regulations require a survey prior to any construction project that will disturb materials suspected of containing lead. EPA-accredited, state-licensed lead personnel must do the sampling and preparation of the report, plans and specifications. Firms must have licenses in the state where the construction work is to be accomplished.

Underground Storage Tanks (UST)/Aboveground Storage Tanks (AST) demolition, removal and disposal involves several environmental issues regarding tank cleaning, product/sludge disposal, soil contamination/disposal and hazardous waste determination. The designer is required to coordinate all these issues as part of the design process and provide all information in the plans and specifications.

Existing contaminated soil and groundwater sites require special detail during field investigation and design. The A&E will be required to coordinate environmental issues with the Environmental Division, Activity Environmental office and the ROICC during the design process.

Removal of any hazardous material shall have plans and specification prepared to describe the scope of work required in sufficient detail to allow a contractor to determine type and quantity of hazardous material being removed. Plans and specification shall be prepared by certified or licensed individuals in the type of work required.

Reference UFC 3-800-10N for further design guidance and requirements.

- ## Sustainable Design

Presidential Executive Order 12852 established the Council on Sustainable Development. A derivative of that order has been an ideological growth of environmental improvement to planning, design and construction practices. Sustainable design is project unique and is an intentional focus by the design team on a facilities environmental impact through its life and its disposal. The design team's understanding of scope and budget best judge environmental improvement but facility sustainable improvement is generally characterized as:

- Increased energy conservation and efficiency through better application of passive concepts, application of new, proven, technologies and renewable energy resources such as building integrated photo-voltaic when economically feasible, use of energy star compliant equipment, fixtures, etc.
- Reduction or elimination of toxic and harmful substances in facilities and their surrounding environments.
- Improvements to interior and exterior environments leading to increased productivity and health.
- More efficient use of resources and materials, especially water resources.
- Selection of materials and products with recycled content.
- Recycling of construction waste and building materials after demolition.
- Reduction in harmful waste products produced during construction.
- Facility maintenance and operational practices that reduce or eliminate harmful effects on people and the natural environment.

The Whole Building Design Guide, http://www.wbdg.org/ , is intended to aid a design team in creating its environmental goals for each facility. Look under the “Sustainable” section of “Design Guidance.”

- ## Energy Considerations

Naval facilities must meet design energy targets as required by Title 10 CFR, Subpart A, Part 435, “Energy Conservation Voluntary Performance Standards for New Commercial and Multifamily High Rise Residential Buildings, Mandatory for Federal Buildings”, published January 30, 1989, the Federal management Improvement Act of 1988, and the Department of Defense Energy Target requirements.

Reference UFC 3-400-10N for further design guidance and requirements.

- **Antiterrorism/Force Protection Construction Standards**

  A/Es are required to design to the latest version of the Unified Facilities Criteria (UFC) "DoD Minimum Antiterrorism Standards for Buildings." This UFC is available from the Engineering and Design Division for A/Es that have contracts for design services.

- **Handicap Considerations**

  The Architectural Barriers Act of 1968, PL 90-480, as amended through 1984 requires that certain buildings financed with Federal funds be so designed and constructed as to be accessible to the physically handicapped. The implementing criteria for this Act are the Uniform Federal Accessibility Standards (UFAS). It is NAVFAC policy that all facilities that are open to the public or limited segments of the public or which may be visited by the public during the conduct of normal business shall be designed and constructed to be accessible to the handicapped. Further, it is Department of Defense policy to design facilities in conformance to the requirements of both UFAS and the Americans with Disabilities Act Accessibility Guidelines (ADAAG). For further information, see UFC 3-100-10N: Design: General Architectural and Interior Design Requirements.

- **Historic Considerations**

  The National Historic Preservation Act (NHPA), PL 89-665 as amended requires that any Federal undertaking take into account the effects of that undertaking on historic properties. This may require the use of qualified professional archaeologists to conduct surface and subsurface surveys in advance of design or construction, monitoring during construction and emergency data recovery if significant historic resources are encountered during construction. In addition, any building or structure that is fifty years old (or less if associated with World War II or is otherwise significant because of unique qualities) may be eligible for listing in the National Register of Historic Places. The A&E may be tasked to assist in the consultation process with the regulatory agencies, including the State Historic Preservation Officer and the Advisory Council on Historic Preservation.

- **Pre-Negotiation Conferences**

  Prior to submitting a fee proposal, it is the A/E's responsibility to visit the site and inspect the location of work and to become familiar with pertinent local conditions. In addition the A&E should review the current project scope. It is policy that a pre-negotiation conference be formally conducted at the Activity for all MILCON and other major funded projects to clarify scope issues prior to negotiation.

- **Electronic Deliverables Criteria**

  All plans and specifications shall be produced and submitted in Electronic Bid Solicitation (EBS) format at the appropriate submittal stage. Additional paper or bound copies at their respective scales may be required as described herein or dictated by the Appendix 'A' scope of work. Criteria for the production and submittal of all required electronic deliverables including, file format, sheet size, CAD standards, electronic signatures, and media are contained in UFC 1-300-10N.

- ## Metrication

  The Metric Conversion Act of 1975 amended by the Omnibus Trade and Competitiveness Act of 1988 named the metric system the preferred system of measurement in the United States. In 1991, President Bush signed Executive Order 12770, Metric Usage in Federal Government Programs. Responding to that executive order, the Department of Defense issued DOD Instruction 5000.2, Use of the Metric System, which requires that metric standards be used in all DOD activities. For additional information regarding metric policy, please see Metric Policy under Guidance and Policy at the Engineering and Design web page located at:
  https://portal.navfac.navy.mil/portal/page?_pageid=34,54852,34_62247&_dad=ptl&_schema=PTLP

- ## Quality

  The A&E shall be responsible for the professionalism, technical accuracy and coordination of all services such as designs, drawings, specifications, cost estimates, and other work or materials furnished by the contractor under the contract.

  The project submitted by the A&E shall represent the best engineering solution possible for the scope of work in the A&E contract. All work must be in accordance with current criteria, guides, and specifications established by Naval Facilities Engineering Command, and shall be in accordance with best engineering practices. Workmanship shall be neat with all lines and lettering of uniform weight and clarity for complete legibility and satisfactory reproduction. Any computer disks submitted must be scanned for viruses using a commercial virus scanning program. **All elements of submittals shall be checked by the A&E and such check shall be made by persons other than those preparing the materials and by professional personnel trained in that specific discipline**. **The A&E shall correct errors and deficiencies at no additional cost to the Government.**

Procurement Strategies

Below are procurement strategies used to obtain facilities or projects. All requirements of this guide still apply regardless of the procurement method used.

Design-Bid-Build

The conventional method of acquisition where design and construction are contracted separately. A&Es are selected and design contracts are negotiated according to requirements of the Brooks Bill, and construction contracts are awarded to the lowest responsive bidder.

Design-Build

- **Definition**

  A method of acquisition where the design and construction are awarded as one contract. Design-Build projects require the Contractor to complete all or portions of the project design and construct the project in accordance with the approved construction documents. Project criteria is defined in the bid documents prepared by an A&E or In-House Government staffing.

- **Request for Proposals (RFP)**

  A Design-Build contract award is based on a *Best Value* approach and includes evaluation of technical and price proposals. The project is normally defined by a detailed scope of work. The preferred Design-Build acquisition method is the Two Phase RFP. Additional information regarding Two Phase and other Design-Build strategies can be found in the section "Other Submittal Requirements" under “Design-Build Procurement”.

Best Value Source Selection

A method of procurement to pre-qualify contractors and/or A&Es to compete for either Design-Build or Design-Bid-Build contracts.

Job Order Contract (JOC)

A method of procurement where a pre-qualified and pre-selected contractor and the contractor's approved A&Es enter into a negotiated construction or a design and construction contract.

Multiple-Award Construction Contracts (MACC)

Multiple-Award Construction Contracts (MACCs) are multiple award indefinite delivery construction contracts where award is made to more than one contractor, each of whom will compete for future construction task orders. Single contracts will be awarded to each of the successful proposers based on technical quality and best value to the Government using the initial project offering to determine best value. Competition for task orders may be based on low price, technically acceptable or best value. The basis for award will be determined and announced at the time of request for bids or proposals.

• The Design Process

The design process is a client focused design process. Many projects require the use of either Functional Analysis Concept Development (FACD), or On-site Design Charette Sessions. Both of these efforts require project analysis and concept design on-site during an intensive effort, which includes the Client (the user and base personnel), the A&E team (all disciplines), and other Government Agencies. The product is a concept design within scope and budget that has the input and approval of the using Activity. The overall requirements for any specific job will be as indicated in the Appendix 'A'. For additional information, please see the Value Engineering (VE), Functional Analysis Concept Development (FACD), and Design Charette Guide under Guidance and Policy Tab at the Engineering and Design web page located at:
https://portal.navfac.navy.mil/portal/page?_pageid=34,54852,34_62247&_dad=ptl&_schema=PTLP

Action or Submittal	Products or Deliverable
1. Pre-Negotiation Conference	Refine Scope and Appendix 'A'
2. Government Estimate/Negotiation/Contract	Negotiated Fee and Issue contract
3. Site Investigation	Topographic Survey Soil Borings Document existing conditions Asbestos and Lead testing
4. Design Options	
a. Pre-design Conference	Design Requirements Budget estimate confirmation
b. On-Site Design Charette	Design Requirements Activity approved sketches VE alternatives for projects over $5 mil Budget estimate confirmation
c. Functional Analysis Concept Development (FACD)	Preliminary Basis of Design Activity approved drawings VE and other documentation Cost estimate
5. 35% Design Development Submittal	Basis of Design Drawings Outline Specification Color Boards Preliminary Cost Estimate
6. 65% Progress Submittal (Option)	Determine per project
7. 100% Pre-final Submittal	Drawings

	Color Boards Specifications Calculations Cost estimate Draft of Permits Dust and Erosion Control Plan Stormwater Management Plan Manufacturer's catalogs
8. Final Submittal	All Electronic Deliverables* Color Boards and Binders Final Cost Estimate Calculations Permits
9. Amendments	New/Revised drawings Sketches New/Revised spec sections Amendment document Cost estimate (if needed)

* *See LANTDIV EBS Manual of Policies and Procedures*

Pre-Design Services

Region 1391 and EFD Preparation

The Specifications and Cost Engineering Branch of the Engineering and Design Division has prepared Region 1391 and EFD 1391 sample forms see the Cost Engineering Guide attached as an appendix to this section of the Professional Services Guide.

Energy Study (Solar Analysis and Energy Analysis)

For specific requirements concerning Energy Studies, see UFC 3-400-10N, Mechanical Engineering Design Guide.

Environmental Requirements (Asbestos, Lead paint, PCB's and Mercury)

When required by the Appendix 'A' for the project, the A&E shall conduct all required surveys, information gathering, and analytical testing. For specific guidance on conducting this field investigation and preparation of the plans and specifications, see UFC 3-800-10N, Environmental Design Guide.

Field Investigation

- **Responsibilities**

  The A&E shall obtain all site and building data and investigate existing site conditions, utilities, and facilities as necessary to properly integrate the design of the project with existing conditions. Except as otherwise contracted, field investigation shall include complete and accurate site investigation, topographic survey and verification of location and availability of utility and drainage systems. Existing as-built record drawings, when available, will be furnished for information. However, the A&E shall be responsible for field verification of as-built drawings and other site features that may influence project design.

- **Coordination**

  All site work, including topographic and soil surveys, shall be coordinated with Public Works personnel. During execution of field investigation work, the A&E shall be responsible for obtaining necessary permits, and complying with applicable laws, codes, and regulations, including OSHA regulations. The A&E shall be responsible for all damages to persons and property that occur as a result of the A&E's fault or negligence. The A&E shall take proper safety precautions to protect the public, the property of the public and the Government from physical hazards and unsafe conditions. Upon completion of field investigation, the A&E shall return the property to its original condition except as released in writing by the client activity.

- **Discipline Requirements**

  See individual Design Guides for each discipline's specific field investigation requirements.

- **Geotechnical Report**

  For specific requirements for the Geotechnical Report, see the Geotechnical and Paving Design Guide attached as an appendix to this section of the Professional Services Guide.

- **Life Safety Code Surveys**

  For specific requirements on Life Safety Code Surveys, see UFC 3-600-10N.

- **Pavement Evaluations**

  For specific requirements concerning Pavement Evaluations, see the Geotechnical and Paving Design Guide attached as an appendix to this section of the Professional Services Guide.

- **Soil Borings**

  For specific requirements for Soil Borings, see the Geotechnical and Paving Design Guide attached as an appendix to this section of the Professional Services Guide.

- **Topographic Survey**

  For specific requirements concerning Topographic Surveys, see the Civil Engineering Design Guide attached as an appendix to this section of the Professional Services Guide.

• Design Services

• Architectural Renderings

- **Option**

  At the Government's option, an architectural rendering may be required either during or following design of a project.

- **Rendering Format**

  The rendering shall be a full vignette/fully developed on heavy illustration board. Approximate finished size shall be 24" X 30" with a minimum inside mat dimension of 16" X 20". Provide a label identifying project title and location, construction contract numbers, A&E name and date.

- **Rendering Scope of Work**

  Unless otherwise directed, provide the following:

  - Submit two perspective sketches of the proposed rendering for approval of one.
  - Paint the rendering using casein tempera or provide a computer generated rendering using software specifically designed for creation of renderings and shall be of a professional nature. Computer renderings that are not fully developed or professionally prepared are not acceptable.
  - Provide one full size photographic reproduction of the original rendering.
  - Frame and matte the original and photographic copy in a contemporary metal frame using non-glare glass.
  - Indicate the project name and location and the A&E's name on the matte using lettering legible from 8 feet away.
  - Ship the rendering, photographic reproduction and the negative in resilient packaging to ensure damage-free delivery.

• Basis of Design

The Basis of Design is a narrative presentation of facts sufficiently complete to demonstrate that the project concept is fully understood and that subsequent design details and their ultimate presentation in the final drawings and specifications will be based on sound architectural and engineering decisions. A discussion and description of the design in each if the disciplines appropriate to the project shall be provided.

The Basis of Design shall be a bound document, 8 ½" X 11", organized by discipline. Provide a cover sheet identifying the document as the Basis of Design, and including the submittal stage, project title and location, A&E and construction contract numbers, A&E name and date. See individual Design Guides for specific discipline Basis of Design requirements.

The Basis of Design shall contain an Antiterrorism and Force Protection (ATFP) section that summarizes how the design complies with DOD and Claimant requirements. As a minimum, the summary shall include the following:

- Applicable design criteria, threat level and performance objective
- Facility description including occupancy classification and structural system
- Site plan dimensioning stand off distances and building separations.
- An overview of progressive collapse analysis (if required)
- Description of window and door treatments
- Mechanical and utility systems
- A table summarizing each criteria element, its status, and a brief explanation of why each element is or is not in compliance
- A summary of all required waivers of variances

Calculations

- **Purpose**

  Design calculations shall be submitted at design stages indicated in the Scope of Work... Calculations shall include references to all Navy and non-Navy criteria used. Computer outputs shall be properly identified and appropriately referenced as to the program name, version and source. Calculations shall be prepared in metric units when metric design is required. For additional information and specific requirements by discipline, contact the project AIC/EIC.

- **Format**

  Calculations shall be bound documents, 8 ½" X 11". Provide a cover sheet identifying the document as the Calculations, and include the submittal stage, project title and location, A&E and construction contract numbers, A&E name and date. Calculations shall be organized by discipline in the same order as the drawings and bound in a manner appropriate to the number of sheets included. An index sheet shall follow the title sheet. Sub-indexes shall be provided for disciplines having a very large number of sheets. All sheets shall be numbered and page numbers included in the index.

- **Discipline Requirements**

  See the individual Design Guides for specific discipline calculation requirements:

Color Boards and Binders

See the individual Design Guides for specific discipline requirements for interior and exterior color boards and binders:

- UFC 3-100-10N: Design: General Architectural and Interior Design Requirements

Construction and Operating Permits

- **General Construction and Operation Permits**

  The Appendix 'A' will list the required permits as part of the A&E Services. These permits include Stormwater Management Permit, Erosion/Sedimentation Control Permit, and Water and Sanitary Sewer Extensions/Sewage Pumping Station Permit. Specific requirements for each permit application can be found in the Civil Engineering Design Guide.

- **Environmental Construction and Operation Permits**

The Appendix 'A' will also contain a list of required environmental permits for the project. Guidance on obtaining these permits can be found in LANTNAVFACENGCOMINST 11010.21 (dated 6 June 1990), "PROCEDURES FOR OBTAINING CONSTRUCTION AND OPERATION PERMITS FOR FACILITIES." A copy is available under Guidance and Policy Tab at the Engineering and Design web page located at: https://portal.navfac.navy.mil/portal/page?_pageid=34,54852,34_62247&_dad=ptl&_schema=PTLP

• Cost Estimate

Cost estimates, when properly prepared, provide a check of plans and specifications for constructability, coordination conflicts, discrepancies, omissions and cost control. The Government uses them to establish/verify budgets and to develop historical data for future budgeting purposes. When the Appendix 'A' requires a construction cost estimate, the designer shall follow the instructions provided in the Cost Engineering Design Guide.

• Design Charette

Design Charettes are cooperative efforts by the Design Team, User/Client representatives, Engineering personnel, and other interested parties. They include on-site development of a conceptual design in response to functional, aesthetic, environmental, base planning, site, budgetary and other requirements. On-site design Charettes are conducted to develop conceptual designs that respond to project scope, budget and technical issues, in order to meet User's functional requirements. Design Charettes encourage interaction between Users and designers to improve understanding by all of project functional requirements and the related design and project issues. The knowledge, experience and creativity of the Design Team are exercised to challenge and improve the initial conceptual design. For a complete description of a Design Charette and the associated requirements, see Value Engineering (VE), Functional Analysis Concept Development (FACD) and Design Charette Guide.

• Drawings

- **General**

The preparation of drawings shall conform to the UFC 1-300-10N, Electronic Design Deliverables Manual of Policies and Procedures and the National Cadd Standards or as modified herein.

- **Presentation**

Drawings should be consistent in presentation and format. If one discipline shows material selections directly on the details, all other disciplines should conform to that format, and not use numbers to refer to a numerical legend elsewhere on the drawings.

- **Drawing Numbers**

NAVFAC drawing numbers will be assigned as part of the 100% review process and will be furnished to the designer with the comments returned with the 100% submittal.

- **Scales**

  Policy is to use nominal English or metric dimensions and units on drawings and to use English or metric scales. Do not add a note indicating that a drawing is not to scale and to use the Graphic Scale.

- **Metric Dimensioning**

  Policy is to use nominal metric dimensions and units on drawings and in specifications. It is further policy to use soft metric specifications for CMU and recessed lighting fixtures, as well as for related modular components required for product/design compatibility, such as ceiling tile, T-bars, hangers, and air diffusers in suspended ceiling systems along with recessed lighting.

- **Material Symbols**

  Unless indicated otherwise in the EBS Manual or this document, material symbols shown on drawings shall be consistent with those used in the most recent issue of **Architectural Graphic Standards**.

- **Proper Use of Notes on Drawings**

  - Be consistent with grammar used in notes on all drawings. Wherever possible use declarative statements to describe work to be accomplished by contractor. For example, instead of using "**contractor shall provide**", use "**provide**". It is understood that the notes are written for the contractor's action.

  - Do not use "**to be**" for describing work that will be accomplished by the contractor. "**To be**" implies that someone will accomplish the work other than the contractor, such as the government or another contractor. If work is to be accomplished by government, for example, say, "**government will** remove storage building prior to start of construction".

  - Do not use "**install**" for work that is to be accomplished by the contractor. "**Install**" means government/others will furnish equipment/materials and contractor will install. "**Furnish**" means contractor shall only furnish; government/others will install. Use "**provide**" when you want contractor to furnish and install equipment/materials.

  - Do not use "**proposed**" for new construction. Use "**new**" for work that will be accomplished in the contract. "**Proposed**" means future work by others or work not in this contact.

  - Do not use ambiguous statements that can't be enforced by the ROICC during construction. Example: "**grade to drain**"; "**hand excavate carefully**"; "**provide materials in good condition**", etc.

  - Be careful with statements like **"remove and replace"**, which means to remove old item or material and replace that item or material when work is completed. This statement would be appropriate for work in a pump station where pumps were removed prior to the work and those same pumps replaced after the work is completed. On the contrary, if a portion of a

concrete walk is cracked and requires replacement, say, "**remove and provide new**".

- When referring to requirement for coordination between contractor and government agency, for example, use “coordinate utility connection with C**ontracting Officer**”; do not use words such as “**Navy**”, “**ROICC**”, “**PWC**”, etc. for government agency.

- Do not indicate, “**see specifications**” on the drawings. The drawings and specifications complement each other.

- Do not use “**all**” or “**any**”.

- Do not use words that have multiple meanings, requiring opinions, or judgmental decisions, such as “timely”, “nearly”, “good-condition”, “suitable”, “well-balanced”, “suitable for intended use”, “reasonable”, “approximately”, “reliable”, “proper”, “usable”, “appropriate”, “adequate”, or “qualified”.

- Do not use terms that are not biddable by the contractor nor enforceable by the government, such as “recondition”, “as directed”, “equal to”, “as required”, “similar to”, “as necessary”, “as close as possible”, “repair”, “match existing”, “or refurbish”.

- Some terms are only enforceable if quantities are shown on the drawings or included in the specifications, such as “as indicated”, “as shown”, “specified herein”, and “as noted”.

- **Discipline Requirements**

  Reference discipline specific design guidance for additional drawing requirements:

• Function Analysis Concept Development (FACD)

FACDs are cooperative efforts by the Design Team, User/Client representatives, Engineering Field Division personnel, and other interested parties. FACDs include on-site development of a conceptual design in response to functional, aesthetic, environmental, base planning, site, budgetary and other requirements with consideration of life cycle consequences of alternative design solutions. FACDs use Value Engineering techniques during design Charettes to help develop conceptual designs, which respond to project scope, budget and technical issues. FACDs allow an opportunity for Users to work closely with designers to improve understanding by all of project functional requirements and the related design and project issues. For a complete description of FACDs and instructions to A&Es see the Value Engineering (VE), Functional Analysis Concept Development (FACD), and Design Charette Guide.

• Interior Design

For specific requirements concerning Interior Design – Architectural (IDA), Interior Design – Furnishings (IDF), or Comprehensive Interior Design (CID), see UFC 3-100-10N, Design: General Architectural and Interior Design Requirements.

- ## Specifications

  Contract specifications are an integral part of the contract documents, and together with the contract drawings, provide a complete and biddable contract package. Government specifications differ from commercial specifications in that materials are specified generically rather than by product name. This is done to allow competition among suppliers of materials of similar quality. At a minimum, three manufacturers or suppliers should be capable of providing each specified product. The Unified Facilities Guide Specifications (UFGS) are written in this generic format and shall be used for all designs.

  It is imperative that the designer coordinates the drawings and the specifications. When the drawings and specifications are not in agreement, the specifications hold precedence. This may not always provide the government with the desired products. Ambiguities, discrepancies, and omissions in the contract documents are always settled in favor of contractor. This may require a negotiated change order to the contract at additional cost to the Government. A clear, well-coordinated set of contract documents minimizes the need for construction change orders and allows the Government to obtain the desired facility at the best possible price.

  For more detailed information concerning preparation of project specifications, please see the Specification Guide attached as an appendix to this section of the Professional Services Guide.

- ## Quality Coordination Review

  The A&E will be expected to perform a quality control review. This review will evaluate both the technical accuracy and discipline coordination. The **100% submittal** shall include a single set of 100% complete prints and specifications highlighted to indicate that the review was performed and corrections made. A signature is required on the "Quality Control" line in the title block of the original cover sheet, indicating a quality coordination review was performed. Such items as section, detail, and note references to other sheets, major dimensions, and equipment locations shall be marked. Verify that all equipment is correctly identified the same way on all sheets and in the specifications. Ensure that all work as indicated on the drawings is fully and consistently specified.

- ## Value Engineering (VE)

  - **Purpose**

    The purpose of VE is to maximize value by improving function and quality, while minimizing total life cycle cost. The Navy desires the most cost effective facility design, consistent with intended use, client satisfaction and appropriate design. Participation by Users and the design team are welcome during all phases of VE efforts.

  - **Definition**

    Value Engineering (synonymous with Value Analysis) is the systematic application of recognized techniques by a multi-disciplined team which identifies the functions of a product or project, establishes a worth for those functions, generates alternatives through the use of creative thinking, and provides the needed functions at the lowest overall cost. For specific requirements for VE, see information in the Value Engineering (VE), Functional Analysis Concept Development (FACD), and Design Charette Guide.

- **Function Analysis Concept Development (FACD)**

  FACD workshops are design Charettes during which the conceptual design is created and which employ VE methodology. An outside VE team is not used in FACD efforts. For a complete description of FACDs, see the Value Engineering (VE), Functional Analysis Concept Development (FACD), and Design Charette Guide.

Post-Design Services

As-Built/Record Drawings

- **Record Drawing Option**

  At the government's option, the A&E may be tasked with the preparation of record drawings showing as-built conditions. When this option is exercised, the A&E will be provided a marked set of contract drawings indicating as-built conditions.

- **Scope of Work**

  Record drawings shall be prepared in the following manner:

  - Revisions shall be made in accordance with UFC 1-300-10N, Electronic Design Deliverables: Manual of Policies and Procedures.

Interior Design Furniture Packages

For specific requirements concerning Interior Design Furniture (IDF) Packages, see UFC 3-100-10N, Design: General Architectural and Interior Design Requirements.

OMSI Manual Preparation

OMSI manuals are usually executed as either a Priced Option or as an unpriced Phase to the A&E contract as a Post Construction Award Service (PCAS). Award of the Option or Phase should be made as soon as possible after construction award. OMSI manuals, also referred to as Technical Operating Manuals, are normally developed during the construction period. The OMSI Manuals provide the activity and it's maintenance organization with clear comprehensive data needed to safely and efficiently operate and maintain the as-built products and systems.

Most Military Construction Navy Projects (MCON) and many Special Projects require OMSI. The exceptions include projects for land acquisition and for horizontal construction such as roads, paving, drainage and dredging. Also, OMSI may not be feasible on small projects costing less than $500,000.

If OSMI preparation is required of the A&E, a detailed OMSI Scope of Work (SOW) and Request for Proposal (RFP) will be provided to the A&E that will describe OMSI services and provide a schedule for OMSI deliverables. During the shop drawing review process, the A&E will use the submittals to prepare the manuals. Typical submittals used are SD-03, Product Data, SD-06, Test Reports, and SD-10, Operation and Maintenance Data. The 100% (Prefinal) OMSI will be submitted 30 to 60 days before Beneficial Occupancy Date (BOD.) This submittal is a "working" document to be used by the ROICC for acceptance and testing, O&M, and training by the activity. The Final OMSI submittal is generally made six months after the Prefinal, incorporating missing submittals, TABS second season report and review comments. The final submittal will also include an electronic version of the manuals on CD.

Additional information on the OMSI program may be found in the Public Works Support Services section of the Guide under OMSI. (Section 7)

- **Shop Drawing Review and Construction Support**

  At the Government's option, checking of shop drawings/submittals and other data by the construction contractor is an A&E's responsibility. For specific requirements concerning shop drawing review and construction support, see the Post Design and Construction Services section of the Guide. (Section 6)

- **Request for Information During Construction Advertisement**

  The A&E shall provide consultation services during the construction advertisement period as well as during the construction period. Such consultation typically occurs in the form of a Request for Information (RFI) from contractors during the bidding process. Typically, RFI's include providing clarification of the intent of the drawings and specifications in response to questions, which routinely arise during the course of bidding. The responses may result in preparation of amplifying drawings, specifications, amendments, change orders and cost estimates to correct errors, omissions, inconsistencies between drawings and specifications, conflicts in dimensions, lack of detail or poor design quality in the drawings and specifications. Amplifying drawings, specifications, amendments, change orders and cost estimates shall be prepared in accordance with the provisions and standards set forth in this Guide. The A&E shall promptly furnish consultation services without additional compensation. For additional information on the format of amendments and change orders see the Specification Guide attached as an appendix to this section of the Professional Services Guide.

  See also "Consultation During Construction" in the Post Design and Construction Services section of this guide for additional consultation required during construction and the evaluation of Contractor Value Engineering Change Orders.

- **Design Field Support**

  See "Design Field Support" section in the Post Design and Construction Services section of this guide.

- **Third Party Monitoring Services for Asbestos and Lead Work**

  Third party monitoring services may be requested through Post Construction Award Services (PCAS). These services generally include providing trained and licensed personnel to perform independent air or wipe sampling, inspection and consultation during asbestos or lead removal portions of the construction project. A separate scope of work will be provided to the A&E Firm for PCAS Third Party Monitoring Services.

Design Submittals

General Requirements

Introduction

This section discusses the submittal requirements for design and design related submittals. (Submittal requirements for individual projects will be identified in the Appendix 'A'. The EBS Manual of Policies and Procedures significantly impacts Final submittals. Please see the EBS Manual for those requirements.)

Signatures and Seals

The following names, seals, signatures and dates shall be affixed to the drawings (electronic or hard copy), plats, technical reports and specifications prior to the Final submittal:

- Each project drawing shall bear the initials of the designers, draftsmen, and reviewers involved in the preparation of the drawing. The block for the A&E name shall contain the name, address and phone number of the firm. All design subcontractors shall have this information on their respective sheets.

- A registered corporate member of the prime A&E firm shall seal, sign, and date the cover sheet listing all drawings in the set.

- All drawings, other than the cover sheets, shall be sealed, signed, and dated by the appropriate design professional as follows:

• Survey drawings	Registered land surveyor
• Environmental drawings	Registered architect or engineer and Certified Asbestos/Lead Project Designer (as applicable)
• Civil drawings	Registered civil engineer
• Geotechnical drawings	Registered geotechnical, civil, or structural engineer
• Landscape drawings	Registered landscape architect
• Architectural drawings	Registered architect
• Structural drawings	Registered structural engineer
• Plumbing drawings	Registered mechanical engineer
• HVAC drawings	Registered mechanical engineer
• Electrical drawings	Registered electrical engineer
• Instrumentation/Controls	Registered engineer
• Cathodic Protection drawings	Registered engineer w/NACE certification as a corrosion or cathodic protection specialist
• Fire protection drawings	Registered fire protection Engineer

- **Responding to Review Comments**

  The A&E is responsible for resolution and incorporation of government comments into the project design. The AE is required to resolve all comments that are in disagreement or need further clarification with the reviewer within two weeks of receiving the comments. At each submittal, previous review comments on Design Coordination/Comment sheets and marked Specifications shall be returned with each comment addressed. If the comment was incorporated into the design, a response shall so indicate. The A&E shall document the phone call or conversation where the reviewer has agreed to changes to the original comment.

- **Submittal Quality**

  Quality Coordination Review prints are due with the 100% SUBMITTAL, however, its not too early to start the coordination process. The basis for the design can be cross-checked to ensure that various discipline design solutions are consistent with each other, the Appendix 'A', the FACD, or other scoping sessions. Review the preliminary cost estimates, compare them to the project budget and look for cost creep. Are there any unresolved issues affecting the final design? The pre-FINAL submittals are not just milestones to be met, but opportunities to review your design processes and solutions, and make sure that the design team has meshed and that their approach is consistent, coordinated and on track for timely completion.

• Design Submittal Requirements

See the individual Design Guides for specific discipline submittal requirements.

Other Submittal Requirements

Architectural Compatibility Submittal

The Architectural Compatibility Submittal is required to document the exterior architectural design of a new facility or major renovation. For details, see the UFC 3-100-10N.

Air Force Projects

General

Due to differences in terminology between the Navy and Air Force, all references throughout the Guide to the following terms should be changed as indicated:

- Project Engineering and PE to Project Definition and PD (Approx. 30%)
- Schematic Design Submittal to PD Submittal (includes Preliminary PD, Final PD, and Corrected Final PD Submittals)
- 100% Submittal to Prefinal Submittal
- Public Works (PW) to Base Civil Engineer (BCE)
- Major Claimant to Major Command

Submittal Format

For those Navy Schematic Submittals, which require 8-1/2" x 11" format, an acceptable alternative for comparable Air Force DP Submittals is 8-1/2" x 14" format.

Cost and Scope Limitations

The A&E is responsible for developing project definition for a project that is completely functional, maintainable, operational, and within the cost and scope constraints for this project. If at any time the Architect-Engineer (A&E) determines that the estimated construction cost or scope of the project exceeds, or is likely to exceed, the estimated construction contract price, or scope set forth in this Statement of Work, the A&E shall report this fact in writing to the Contracting Officer. Additionally, the A&E shall submit a control estimate and recommendations for reducing the project's cost and/or scope to within the established limits. Any proposed deviation from criteria must be approved prior to implementation.

Criteria

The project design shall conform to the following Air Force criteria:

- AFM 86-2, Standard Facility Requirements
- AFR 88-15, Criteria and Standards for Air Force Construction
- AFM 88-29, Engineering Weather Data
- AFR 91-36, Roof Management Program
- Air Force Engineering Technical Letters (AF ETLs)
- Air Force Construction Technical Letters (AF CTLs)
- AFP 88-40, Sign Standards
- Activity requirements (as possible)

- **Requirements And Management Plan (RAMP)**

  The RAMP provides project planning information such as base architectural guidelines; base standards and regulations for fire protection, safety, security, communications, systems operability and maintain-ability, energy conservation, and other base/site specific requirements; a Base Long Range Plan; etc. The RAMP is prepared at the project air base/major command level and will be provided to the A&E by PM.

- **Deliverables**

  - **Project Definition (PD) Documentation**

    The A&E produces the PD documentation as part of the PD process for Air Force projects. The PD documentation documents the project scope, budget, and design solution for approval by Congress and must be based upon a complete PD design analysis and developed design concepts. "Guidelines for Preparation of Project Engineering Documentation". The main elements of the PD documentation are the DD Form 1391, budget estimate summary sheet, project sketches, basis of design, and Parametric Cost Estimate (PCE). The PCE shall include a Summary Sheet (indicating authorized scope, designed scope, authorized construction cost, designed construction cost, percentage over/under authorized cost, construction cost to 5-foot line, and construction cost outside 5-foot line), and AF Forms 1178, 1178A, and 1178B. The A&E shall provide a recommendation on the contracting strategy including milestones and assumptions.

  - **Safety Hazards Analysis**

    Since there is not 35% the PDB Approx. 30% Submittal for Air Force projects, resolutions (elimination or control) for each hazard identified in the Hazards Analysis must be provided in a "Basis of Design" interim submittal prior to the 90% Submittal.

  - **Specification**

    As part of the required edit of guide specifications, the A&E shall incorporate all pertinent Air Force criteria.

  - **Pre-Project Definition Conference**

    The A&E will be required to participate in a Pre-Project Definition Conference at the project location to discuss and clarify the scope of this project. During this site visit, the A&E will be given any available Government furnished information and provided opportunity to ask any questions regarding design services. As a minimum, the Pre-Project Definition Conference will include the following activities:

    - Refine project scope and workplan
    - Schedule the field trip interviews
    - Interview designated user groups and key decision makers to establish project goals and direction
    - Arrange the work session logistics

- **Site Investigation / Charette**

  The A&E shall visit the site and gather all necessary site information, review User operations, and discuss User needs.

  In addition, the A&E shall conduct a Charette (intensive problem solving effort, including user interviews, completed in a specified time period) to determine and document all criteria and requirements. The A&E shall prepare a schematic floor plan showing all rooms and space requirements during the Charette.

- **Site Investigation / Detailed Data**

  The A&E shall visit the site and gather all necessary site information, review User operations, and discuss User needs. In addition, the A&E shall prepare the following data:

  - A written statement of project goals
  - A comprehensive graphic analysis of the project site, surrounding context and climatic information
  - An analysis of existing facility which are directly impacted by the construction of a facility or deployment of a system
  - A compilation and analysis of all descriptive and statistical data regarding proposed user group(s) that addresses function, activities, and major equipment to be accommodated
  - Concepts/idea diagrams for implementing project goals and objectives
  - Summary statements of unique aspects of the project design problem
  - An action list of required follow-on items that must be pursued in order to produce a complete project definition package

- **Operability and Maintainability Report**

  The A&E shall prepare an Operability and Maintainability Report using Engineering Technical Letter (ETL) 88-4, “Reliability and Maintainability Design Checklist”, dated 24 June 1989, as a guide. The report shall specifically address operability and maintainability in the following areas:

  - architectural elements and site work
  - electrical and mechanical system selections
  - roofing system selection
  - water wastewater systems
  - corrosion prevention and control

- **Command / Senior Level Briefing**

  The A&E shall develop as part of the Final PD submittal, professionally prepared presentation boards depicting design development in layman’s non-technical terms and descriptions. The briefing will provide a discussion of the Final PD and parametric cost estimate documents. The briefing is considered an important part of ensuring user involvement, obtaining high level approval, and avoiding changes later in the design process. The A&E shall use senior level personnel to make the formal presentations. The briefing shall be held at the Base for the User, the Host and Requiring MAJCOM, Base representatives, AF Design Manager, and NAVFAC.

- **Bird's-Eye View Architectural Renderings**

  The A&E shall provide bird-eye view architectural renderings, which show the architectural style, massing, and compatibility with the established base urban design.

- **Model**

  The A&E shall provide a model of the proposed facility

- **Reliability and maintainability Checklist**

  The A&E shall complete the "Reliability and Maintainability Checklist" contained in ETL 88-4 in accordance with the requirements contained therein.

- **Building Finishes**

  For Air Force projects, the A&E shall submit Preliminary and Final Building Finishes Packages in accordance with the Milestone and Distribution Schedules in the Appendix 'A'.

  The Preliminary Building Finishes Package shall consist of (1) samples of all interior and exterior colors, materials, and finishes and (2) sketches or catalog cuts of built-in equipment, signage, graphics, and accessories. Such samples, sketches and catalog cuts shall be mounted or matted on 8-1/2" x 11" modules (with a maximum spread of 25-1/2" x 33" for foldouts) and be "keyed to the architectural finish schedules. Place the project title and base on the lower right side of each module. The module must support and anchor all samples. Anchor large or heavy samples with mechanical fasteners. Do not use "rubber cement" or other contact glues. Assemble the modules in a standard, three-ring binder. Identify each binder on the outside spine by FY, project title, project number (Air Force PDC), base and date. In addition, the A&E shall submit a brief narrative explaining the design objectives and choices of materials, finishes, colors, etc. in relation to the building and the site. (Coordinate the narrative with the "Architectural Compatibility Submittal" which may be required for the Schematic Submission. See the "Architectural Design Guide".) Additional requirements for the Building Finishes Package are outlined in "AFRCE Architectural Design Requirements" of 11 February 1986 (with revisions June 1986).

  For the Final Building Finishes Package the A&E shall revise and resubmit the Preliminary Building Finishes Package to reflect resolution of all government review comments.

- **Comprehensive Interior Design Package**

  The A&E shall submit Early Preliminary, Preliminary, Advanced Final, and Final Comprehensive Interior Design Packages in accordance with the Milestone and Distribution Schedules in the Appendix 'A'. The package shall be prepared in accordance with the requirements of "AFRCE Architectural Design Requirements" of 11 February 1986 (with revisions June 1986).

- **Design Info Pamphlet**

  The A&E shall submit a completed Design Information Pamphlet with the Final Submission. Format and requirements for the Design Information Pamphlet are contained in Attachment 22B, "Air Force Design Information Pamphlet".

- **Air Force Energy Report**

  The A&E shall submit a completed Air Force Energy Report with the Design Development Submission. Format and requirements for the Air Force Energy Report are contained in Attachment 22C, "Air Force Energy Report."

• Design-Build Procurement

- **Definition**

  Design-Build projects require the Contractor to complete all or portions of the project design and construct the project in accordance with the approved construction documents. Project criteria and design requirements are defined in the solicitation documents.

- **Solicitation Documents**

  Solicitation documents shall include administrative and performance based specifications supplemented with survey, geotechnical, environmental, demolition, and reference drawings as required. For all Design-Build (DB) projects, except EFA MED projects, use the format and content provided on the NAVFAC Design-Build website at http://www.wbdg.org/ndbm/ in the preparation of the DB Request For Proposal (RFP). All necessary files are available for download from the website. The website also offers tutorial information concerning the RFP format and content.

- **Design-Build Strategies**

  Design-Build projects may be awarded using various acquisition strategies, including:
  - Request for Proposals (RFP)
    - Two Phase Design-Build Contracts (Best Value Source Selection)
    - Multiple Award Construction Contracts (MACC)
    - Job Order Contracts (JOC)
  - Request for Technical Proposals (RFTP - Two Step)

  The various strategies are discussed in the Design-Build Guide.

• Commission of Fine Arts Submittal

The Commission of Fine Arts Presentation Submittal is required to clearly demonstrate to the Commission the intent and quality of the project, and to obtain the acceptance of the Commission.

This is a separate submittal that should be submitted early in the design process. In most cases, it can be submitted concurrent with the 35% Design Development Submittal.

The Commission of Fine Arts Submittal consists of the following elements:

- **Drawings** – Provide one set of drawings, 24" x 36", mounted on presentation boards and rendered with appropriate color.

- **Project Data Report**
- **Environmental Assessment Statement**
- **Photographs of existing conditions** – Provide sufficient photographs to indicate the character of the existing nearby facilities, which have influence on the architectural design of the project.
- **Copies** – Provide three copies of all materials
- **Reduction** – Provide three sets of 8 ½" x 11" black and white reductions of the record copies.

• Medical Projects

- **Introduction**

  The Defense Medical Facilities Office (DMFO) is a division of the Office of the Assistant Secretary of Defense (Health Affairs), OASD (HA). DMFO is responsible for the planning, programming, managing financial resources, preparing and maintaining facility criteria, performing concept review, and 35% certification for facility design and construction. "Medical Projects" include hospitals, medical and dental clinics, and other medical and dental treatment facilities.

- **Policy**

  As outlined in DoD Directive 6015.16, "Department of Defense Policies for Planning Fixed Military Health Facilities," April 15, 1996, the goal is to design and build efficient, economical, and safe facilities which sustain an effective combat force and support the medical wartime mission.

- **Reference Publications**

  Military Handbook 1191, "Medical Military Construction Program Facilities - Design and Construction Criteria," 24 May 1996, provides mandatory design and construction criteria for all DoD Medical Military Facilities. Requirements begin with the Design Authorization, through design and construction, Beneficial Occupancy, and Post-Occupancy evaluation.

- **Submittal Requirements**

  The medical design submittal process is a seven-step process. Each step or phase meets a particular need or focus for a particular group - program manager, client, technical reviewers. The phases are referred to as S-1, S-2, ...

  - **S-1 (5% Stage)**

    Usually referred to as Block diagrams. A&E provides two to three substantially different schemes. One of the schemes (or a variation is selected by claimant for further concept development and is subsequently presented to OASD (HA)/DMFO. Key items for S-1 submittal include:

    - Patient travel distances to high use service areas (i.e., Outpatient Records, Pharmacy, Outpatient Clinics, Laboratory, Radiology, Physical Therapy)

- Departmental adjacencies (i.e., Radiology in close proximity to ER)
- Ease of vertical transport
- Separation of patient and service traffic
- Access routes for patient, emergency and service vehicles
- Positioning of building on site with respect to prevailing winds, solar and topographic conditions
- Potentially dysfunctional departmental configurations
- Runway clearance, noise, and hazardous ARC zones
- Travel distance between outpatient clinics and ancillary services
- Circulation patterns
- Departmental control points
- Current estimated construction (EC) compared with target ECC
- Departmental and overall gross scope as compared to PFD
- Potential for future expansion

- **S-2 (10% Stage)**

  Review of submittal with user, site visit - Critical action: review departmental layouts with OICs/NCOICs. DMFO reviews and approves S-2. Key items for an S-2 submittals include.

  - Designed net square feet (nsf) or each room as compared to PFD
  - Inter and intradepartmental adjacencies which impede functionality/ efficiency or work flow in rooms

- **S-3 (30% Stage)**

  The S-3 is the critical concept submittal. DMFO also reviews and approves this submittal. Key items for an S-3 submittal include:

  - Ensure all equipment and furnishings fit into rooms, such that workflow is efficient and unnecessary steps are eliminated.
  - Ensure work space and waiting space are not unduly encumbered by circulation space which is taken out of the programmed nsf of the room rather than being shown as additive square feet.
  - Check programmed nsf against design nsf and question significant variances, particularly in those spaces which show large circulation patterns.
  - Ensure pieces of equipment and furnishings that are shown for each room are actually needed in that space (validate with department OICs/NCOICs).
  - Using the PFD, validate that all rooms are accounted for in the design.
  - Check finish schedule and door schedules to ensure compliance with AFR 88 50, Table 3-2 and Table 3-3.
  - Ensure the Fire Protection Plan meets requirements of NFPA 101.
  - If project is an addition/alteration, ensure the proposed construction phasing plan is logical and minimizes disruption of services (Note: construction phasing plan must be presented to and approved by the Medical/Dental Executive Staff.
  - Ensure structural interior finishes are in patterns and colors that complement the architectural design and create a cheerful, non-threatening, therapeutic environment.
  - Ensure waste handling and transportation systems are logical, cost effective and meet local, state, and federal requirements.

- **S-4 (35% Stage, Finalized 30%)**

  As the final concept submittal, S-4 is a further development and clean up of S-3. A careful review of this submittal to ensure all comments from submittals 1 through 3 have been satisfactorily addressed is essential, as this is the concept submittal DMFO must approve prior to authorization to proceed to 100% design.

- **S-5 (60% Stage)**

  An S-5 submittal is the first submittal of working drawings (a.k.a. preliminary working drawings, 60% or 65% design). The S-5 review is the most critical of all submittal reviews. By this point in the design process, design of the following building elements and systems should be fairly well established: building configuration and site placement; departmental and room layouts; mechanical, electrical, medical gas, fire protection, transportation, waste handling, communications, alarm and security systems, signage and wayfinding systems; and door, hardware and finish schedules.

  Key items for an S-5 submittal include:

  - Ensure specifications are detailed enough to clearly define critical salient characteristics of products, finishes, equipment.
  - Ensure casework complies with MIL-C-20709D.
  - Ensure proposed furniture and furnishings are appropriate for the intended function, enhance the approved interior design scheme, are readily obtainable (i.e., GSA contract), and costs are within budget.

- **S-6 (90% Stage)**

  The second submittal in working drawings (a.k.a. final working drawings, 90% or 95% design). This submittal should reflect a completion of the architectural, engineering, and interior design. Key items for S-6 include:

  - If project is an addition/alteration it is essential that the phasing plan is clear, logical, complete, and minimizes service disruption.

- **S-7 (Finals)**

  Also known as Finals or the "Backcheck" of S-6. Particular attention should also be paid to:

  - special provisions section of phasing plan
  - liquidated damages
  - government furnished equipment
  - quality control

- ## NATO Projects

  - **General**

    In general NATO projects are prepared, submitted, reviewed and administered the same as US projects. LANTDIVINST 4000.2A provides detailed procedures and important references for designing a NATO funded project. Significant differences for NATO projects are:

    NATO Accounting Unit (NAU): NATO uses a national currency, the NAU, which is based upon an aggregate of the currencies of the member nations. It is adjusted quarterly.

    Type B Cost Estimate (TBCE): This document is produced as part of the 35% submittal. It is the document that is submitted to NATO and establishes scope and budget for the project. It includes a narrative description of the project, drawings and a detailed estimate. Detailed instruction for preparation of the TBCE will be provided as part of the Appendix A.

    Materials: All materials specified for a NATO Project must be produced in the NATO nations.

    Joint Formal Acceptance Inspection (JFAI): After construction completion NATO inspects the completed facility to ensure it has been built in accordance with the criteria and the TBCE. Preparation of the JFAI documents and representation at the inspection will be negotiated options to the A/E contract.

    Most US projects are designed to budget. The scope required cannot exceed the established budget. NATO projects are the opposite. NATO requires design to a specific scope with the costs supported as long as they are reasonable. The budget for a NATO project is therefore not set until the 35% (TBCE) design stage.

  - **Criteria**

    NATO projects are, with few exceptions, operational facilities. They are designed to austere standards known as Minimum Military Requirement (MMR). The appropriate NATO design criteria will be provided with "Appendix A".

- ## National Capital Planning Commission Submittal

  The National Capital Planning Commission (NCPC) Submittal is required to clearly demonstrate to the Commission the intent and quality of the project and to obtain the acceptance of the Commission. See http://www.ncpc.gov/info.html.

  This is a separate submittal that should be submitted early in the design process. It most cases, it can be submitted concurrent with the 35% Design Development Submittal.

  A National Capital Planning Commission Submittal consists of the following elements:

  - **Drawings** – Provide one set of drawings, 24” X 36”, mounted on presentation boards and rendered with appropriate color.

  - **Project data report**

  - **Environmental assessment statement**

- **Photographs of existing conditions** – Provide sufficient photographs to indicate the character of existing nearby facilities that have influence on the architectural design of the project.

- **Copies** – Provide seven copies of all materials

- **Reduction** – 8 ½" X 11" black and white reductions of the record copies

- **NEXCOM Projects**

  All guidance provided in this guide is applicable. Any special instructions will be provided in the Appendix 'A', Scope of Work.

• Overseas Requirements

• General

Naval Facilities Engineering Command, Europe (NAVFAC EUROPE), located in Naples, Italy has cognizance over projects throughout the European Theater. NAVFAC EUROPE administers a broad range of design and construction services including award and administration of construction contracts. Where Norfolk assumes the design lead for a specific project, it does so in support of NAVFAC EUROPE. Upon completion of design, final plans and specifications are forwarded to NAVFAC EUROPE, or their field office, for advertisement and award. An option for Post Construction Award Services (PCAS) will be negotiated in the initial design contract award, and then modified as needed after pre-final design review. Because the design contract is managed from Norfolk, pre-award modifications and actual award of the PCAS option will continue to be managed by the Norfolk Project Manager.

Delivery of A&E products and services in the NAVFAC EUROPE area of responsibility requires a partnership between the CONUS and Host Nation A&E firms. This A&E Team is responsible for providing products and services that are complete, and in compliance with all applicable U.S. and Host Nation Laws, Codes and Norms.

• Area of Responsibility (AoR)

The Area of Responsibility for NAVFAC EUROPE includes Europe, Northern Africa, and the Arabian Gulf regions. Specific locations currently include the following:

COUNTRY	ACTIVITY
AZORES	• Lajes Field
BAHRAIN	• NSA Bahrain
EGYPT	• NAMRU-3, Cairo
GAMBIA	• Banjul Intl AP (NASA Abort Landing Site)
GREECE	• Iraklion AB
	• Joint Command South Central, NATO, Larissa, Greece
	• NSA Souda Bay, Crete
	• U.S. Embassy, Athens
ICELAND	• Keflavik
	• Grendavik
	• Hofn
ISRAEL	• Tel Aviv IS NAVATTACHE
ITALY	• Aviano, USAF
	• Camp Darby, Livorno
	• Camp Ederle, Army Inst, Vicenza
	• Dal Molin Air Base, Vicenza
	• NSA Gaeta
	• Ghedi Milano Air Base
	• NSA La Maddalena
	• NSA Naples
	• San Vito dei Normanni, AF
	• Sigonella Naval Air Station

MOROCCO	• Sidi Slimaneab Air Base
	• Ben Guerir AB (NASA Abort Landing Site)
SPAIN	• NS Rota
	• Joint Headquarters Southwest, Madrid
	• Moron
	• Torrejon, AFB
UNITED KINGDOM	• NAVACTSUK, London
	• St Mawgan, JMF

In addition, NAVFAC EUROPE provides Contingency Engineering and Humanitarian Assistance support to the U.S. European Command (USEUCOM), (CENTCOM), and (MARCENT). The Mission provides rapid engineering and contractual support for contingency operations involving Exercise Related Construction (ERC), Humanitarian Assistance (HCA/HA), and limited or regional conflicts (LRC/MRC).

Specific Countries where support occurs, include: Albania, Algeria, Angola, Armenia, Benin, Bosnia, Botswana, Bulgaria, Cameroon, Cape Verde, Democratic Republic of Congo, Equatorial Guinea, Estonia, FYROM, Gabon, Gambia, Georgia, Ghana, Guinea, Guinea-Bissau, Herzegovina, Ivory Coast, Latvia, Lebanon, Liberia, Libya, Lithuania, Mauritania, Mediterranean Islands, Moldova, Mozambique, Niger, Nigeria, Portugal, Romania, Senegal, Sierra Leone, Syria, Spain, Tanzania, The former Yugoslav States (Bosnia and Herzegovina, Croatia, Macedonia, Montenegro, Serbia, Slovenia), Turkey, Togo, Tunisia and Western Sahara.

• Translations (General Guidance)

Construction drawings are required to be prepared in dual language at a majority of our overseas locations. Unless the contract scope indicates otherwise, translation of specifications shall not be required. Where dual language is required, the Host Nation A&E shall be responsible for accurately translating all required documents such that they are clear and comprehendible to the local construction community. The Host Nation A&E may also be contracted to translate Government furnished studies, surveys, geotechnical reports, product specifications, host country requirements or other technical documents prepared in a foreign language and serve as an interpreter when meeting with local officials and contractors. Translations shall be included with the Pre-Final (100%) submittal, through project completion.

For drawings developed in dual language, provide adequate space adjacent to each note, title, symbol, etc., for the foreign language translation. Final drawings shall not appear cluttered or congested.

• Facility Classification and Code Report

For projects in the NAVFAC EUROPE AOR, design of all disciplines shall comply with all applicable U.S., Host Nation and Activity regulations, laws and norms, and U.S. military criteria (MIL-HDBKS, standards, instructions etc.), and shall be acceptable by all regulatory authorities. Exceptions to this policy shall be specifically addressed in the A&E Scope of Services.

A Host Nation A&E consultant for code compliance in every discipline must certify all designs prepared by U.S. firms as compliant with Host Nation standards.

The A&E is required to provide a Facility Classification and Code Report, which shall be presented as a draft at the concept design presentation meeting, and in their final version with the 35% design package submission. Report structure shall be as follows:

Facility Classification.

The facility shall be classified with reference to both U.S. and Host Nation codes, and shall include (as a minimum) the following aspects:

- Type of construction
- Principle Occupancy Type and Functional use of the facility (residential, barracks, medical, hospital, educational, etc.), and all major activities to be performed within the facility (assembly, laboratories, laundry, kitchens, shops, etc.)
- Size of the facility, to include net area / gross area, overall height, total volume, number of floors, and other principle dimensions.
- Type of occupants (military, civilian, U.S. only, local nationals, etc.). Description of occupants shall include residents, employees, and janitorial personnel, anticipated visitors, etc.
- Estimated number of occupants (per room and total facility)

Code Identification.

The Code Report shall include:

- A listing of all applicable U.S. and Host Nation references, codes/norms, with regards to the facility classification.
- A listing of all potential areas of code/norm conflict, with proposed solutions and their rationale.
- A listing of all Host Nation regulatory authorities, with the description of their competence and function.

• Location Specific Guidance - Italy

- **Translations**

  Drawing translations (all notes, titles, symbols, etc.), shall be provided with English on top, in plain text, and Italian below, in italic font.

- **Host Nation Approval**

  The Host Nation Approval package (if required) consists of an illustrative statement and associated drawings that convey the full extents of the project. If package preparation is included in the project scope of work, it shall be provided in accordance with the requirements noted in the **Guidebook For Mixed Commission Approvals For Facilities Construction In Italy.**
  http://www.lantdiv.navfac.navy.mil/pls/lantdiv/docs/folder/efa_med/general/cmd/mc_guidebook.pdf.

- **Italian Code Compliance Certification**

  For projects in Italy, design of all disciplines shall comply with applicable U.S., Host Nation laws, norms, regulations and all applicable U.S. Military criteria. Plans and Specifications shall be certified, stamped and signed by an Italian architect, engineer or technician, registered on the professional rolls of Italy, for compliance with Italian laws, norms and regulations. The signature and stamp shall appear on each drawing sheet adjacent to where the U.S. architect or engineer's stamp appears. For specifications the stamp and

signature shall appear adjacent to where the U.S. architect or engineer's stamp appears on the cover sheet. All design calculations shall also be stamped and signed by the Italian architect and engineer. The intent is that the Italian architect and engineer is a co-designer and they are certifying that all the plans, specifications, and design calculations are in accordance with Italian norms, codes and laws.

- **Italian Post-Construction Certifications**

  For projects in Italy, Host Nation Approval is granted with the condition that certain Post-Construction Certifications be submitted to the Government of Italy upon Completion of Construction.

  The A&E shall prepare the construction specifications to include the requirement that the contractor shall submit all the necessary construction certifications required. At a minimum the contractor shall submit two copies of the following documents (based on the noted laws and any subsequent amendments), to the ROICC office: (NOTE: This is a minimum list that is not inclusive of all the certifications that may be required for a facility.)

  - Static Load Test Certificate in accordance with Law 1086 of 5 November 1971
    - Note: the design A&E of record shall be responsible for providing the necessary documentation (i.e., structural calculations, etc.) to the construction contractor to facilitate required testing.
  - Certificate of compliance of Electrical Systems in accordance with CEI regulations and with DPR 547 of 27 April 1955 on Accident Prevention.
  - Certificate of compliance of Heating Systems above 100,000 Kcal/hr in accordance with Law 373 of 30 April 1976.
  - Fire Prevention compliance certification in accordance with DM 16 February 1982 and DM 8 March 1985.
  - Passenger and Freight Elevators Test certificate in accordance with Law 1415 of 24 October 1942.
  - As-Built drawings of all facilities including Plans, Elevations, Sections, and layouts of Water, Electrical, Sewer, Heating, Ventilation and Air Conditioning (HVAC) Systems.
  - All work to be in compliance with E.C. Law No. 46 of 5 March 1990 which provides for minimum standards of all technical systems in buildings.

- **Italian SOA (Societa' Organismi d' Attestazione (Qualifying Agencies) Requirements**

  The Italian Republic Presidential Decree (D.P.R.) 34/00, requires any construction company (prime and subcontractors), interested in performing projects, to have a SOA certificate which qualifies them for the particular category(ies) and classification(s) of work to be executed for that project. Document is located at:

  http://www.autoritalavoripubblici.it/qualificazioni/Normativa.html

  Accordingly, the A&E shall identify the Work Categories and Classifications for the project in accordance with Article 3 and Enclosure (A) of D.P.R. 34/00 for use by the Contracting Officer in pre-solicitation notices.

  The following information shall be included in the project Basis of Design and annotated on the Project Information Form included with the pre-final submittal package:

- The Government Estimate (in both Euro and Dollar);
- The Prevailing Work Category and related Classifications;
- Any additional Work Category (ies) other than the Prevailing Category (as required), and the related Classifications.

In addition, the A&E shall provide their determination on the applicability of joint venture or subcontracting requirements for execution of the work, in accordance with Article 13.7 of Italian Law 109/94.

• Location Specific Guidance - Greece, Spain and United Kingdom

- **Translations**

  - **Greece**

    Drawing translations (all notes, titles, symbols, etc.), shall be provided with English on top, in plain text, and Greek below, in italic font.

  - **Spain**

    Drawing translations (all notes, titles, symbols, etc.), shall be provided with Spanish on top, in plain text, and English below, in italic font.

  - **United Kingdom**

    Not required.

- **Host Nation Approval**

  If Host Nation Approval documentation is included in the project scope of work, it shall be prepared in the language of the Host Nation. Specific formatting requirements will be included in the project A&E Scope of Work. Unless otherwise noted in the A&E Scope of Work, U.S. translation shall not be required.

- **Code Compliance Certification**

  Design of all disciplines shall comply with the applicable U.S. & Host Nation norms, regulations and all applicable U.S. Military criteria. Plans and Specifications shall be certified by a Host Nation architect or engineer, registered on the country's professional rolls, for compliance with all applicable codes and laws.

  The certification shall be provided on the cover sheet of project drawings and specifications, in dual languages. The code compliance certification shall be provided as indicated below, and dated, signed and stamped in accordance with the requirements of Electronic Solicitation (ESOL).

  - "HAVING PARTICIPATED IN THE DESIGN OF PROJECT No. (Identify project number, project title, location), AND HAVING THOROUGHLY REVIEWED THE COMPLETED PROJECT DOCUMENTS, I DECLARE THAT THE FACILITY DESIGN INCLUDED HEREIN COMPLIES WITH ALL APPLICABLE (Identify Host Country) CODES AND LAWS.

    Date Signature (Professional Seal)

Location Specific Guidance - Iceland

Host Nation Approval

There is a mutual interest between the Icelandic Defense Force and the Government of Iceland (GOI) to jointly coordinate proposed development within the Agreed Area to ensure good planning, compatible land use, and mutual harmony. The Agreed Area Planning and Building Committee (PBC) handles planning and building matters within the Agreed Areas in cooperation with the Iceland Defense Department and in accordance with GOI regulation No. 75/15 March 1982.

Iceland PBC Submittal

Information is presented to the PBC in four stages.

Stage 1:

- Master plans, base exterior architecture plans, and presentations. These documents establish the framework for future design submissions and future development within the Agreed Area.

- Comments on these plans will be provided to the Defense Force by the PBC normally within a month of receipt by the PBC.

Stage 2:

- Annual presentation of projects for which design is being initiated. Normally projects are presented two years prior to potential construction. Locations should be as shown in the master plan or differences explained.

- Due to special concerns regarding development of Family Housing, Town Center and special areas of mutual agreement, an additional point of coordination will take place for these specific projects. Sub-area plans 1" = 100' (or approximately (1:1000)) will be submitted as early in the design process as practicable for PBC comment on site planning. These plans will show adjacent development, road system and how the building fits into the surrounding area. Alternative siting (if proposed) would be presented at this time along with preliminary exterior sketches of proposed building exterior. This sub-area plan will be submitted prior to the 35% design stage.

- Development should be consistent with the Base Exterior Architectural Plan (BEAP) or the differences explained.

- Comments on these plans will be provided to the Defense Force by the PBC normally within a month upon receipt by the PBC.

Stage 3: (35%)

- The Planning and Building Committee Submittal Document consists of design and detailed site location drawings forming the basis for design and building code concurrence. Content of these submissions varies with respect to the type of facility involved. Normally, this submission consists of a location drawing, general development plan, building interior and exterior plans (as defined

hereinafter). Those construction projects that result in new buildings, major site development, or changes to exterior architecture or functional use of existing buildings are submitted to the PBC for coordination. Interior renovations of existing buildings, utilities, street repairs, and related projects are not normally submitted. Content and purpose of the coordination differ for operational and non-operational buildings.

- Where design detail is found to be insufficient, additional information can be provided upon request

- The Defense Force will provide environmental impact information upon request to the PBC.

Non-Operational Military Facilities

Those projects of a housing or personnel support nature are submitted to the PBC for conformance with Icelandic building codes. Coordination of siting, building exterior, and interior architecture by the PBC is accomplished at this time.

Operational Military Facilities

Projects related to direct or indirect support of NATO/non-NATO military operational facilities are coordinated for siting and appearance only. Projects are discussed informally with the Iceland Defense Department prior to coordination with the PBC. Only general development and exterior building plans are submitted to Iceland Defense Department of coordination with PBC for operational facilities siting and exterior architecture.

Comments on these plans will be provided to the Defense Force by the PBC, normally within a month of receipt by the PBC.

Stage 4:

- One hundred percent design (construction drawings) for non-operational facilities are forwarded by IDF as requested by PBC.

- **Areas of Disagreement**

The Icelandic and U.S. Chairman of the Defense council will refer areas of disagreement regarding projects or matters that are not resolvable by the Defense Force and the PBC in their joint discussions, for joint resolution.

Format

The following format should normally be used for drawings submitted to the PBC.

- **Size of Drawings** (35% design submissions)

  All drawings for a particular project will be on the same size sheet.

- **Location Drawings** (35% design submissions)

  All submissions should include a location drawing showing the approved project site in relation to other facilities in the area. If located within the main base (cantonment) area, a scale of 1" = 400', (or approximately 1:5000) is desirable.

Location on main Agreed Area shall also be shown. North arrow and a clear delineation of the project scope (area) should be included.

- **General Development Plan** (all 35% design submissions)

  On a drawing normally using a scale of 1" = 100' (or approximately 1:1000), show the proposed buildings relation to the adjacent road systems, grounds and other facilities to approximately 750 feet (250m) from either side of the new construction. The plan should show access to the proposed project, in addition to sidewalks, playgrounds, parking lots, vegetation, and other items relating to the project site. The footprint (area) and the total floor area of the building shall be annotated on the drawing. North indicators and graphic scales shall be shown on all plans.

- **Exterior Architecture** (all 35% design submissions)

  The whole building exterior shall be shown so that it can be approved from an exterior architectural standpoint.

  The above format and procedures will form the basis for future coordination between the PBC and their Defense Force counterparts in coordination of PBC matters on the Agreed Area.

- **Interior Architectural Drawings** (non-operational buildings only)

  Building plans shall preferably be in 1/8" = 1' - 0" (or approximately 1:100) scale showing all floors, elevations and building sections fully dimensioned. Also show the intended use of each room and the net area. Show the interior arrangements on the drawings for kitchens, bathrooms, sleeping rooms, day rooms, living rooms, and dining areas. Also required is the location of fixed cabinets, closets, etc. For changes or additions to existing structures, provide architectural drawings with the proposed work drawn in heavy lines so they can be clearly distinguished from the existing structures.

- **Adjacent Buildings** (all 5% design submissions)

  If the building is in a continuous row of buildings, then show relationship to adjacent buildings. If the building is an addition, then show elevations of how the new work (building) will join with the existing structure.

- **Fences, etc.** (all 35% design submissions)

  Plans should include depictions of fences, signs and other similar exterior street furniture where applicable.

- **Appendices Section 5**

1. Civil Engineering Design Guide
2. Cost Engineering Design Guide
3. Geotechnical and Paving Design Guide
4. Specification Design Guide

Civil Engineering Design Guide

• Introduction

The Appendix “A” to the contract for A&E Services defines the project-specific scope of the required services. The Unified Facilities Criteria (UFC) 1-300-09N (“Design Procedures”), 1-300-10N (Electronic Design Deliverables) and 3-200-10N (“Design: General Civil / Geotechnical / Landscape Requirements”) provide guidance for the design and presentation of the required services. This Civil Engineering Design Guide further defines the Civil Engineering technical and submittal requirements for Civil Engineers. The design services and products required in the Appendix “A” shall conform to the requirements of the applicable Unified Facilities Criteria, except as modified below.

• Pre-Design Services

• Field Investigation

• Physical and Topographic Surveying of Site

Clearly indicate locations of project benchmarks (BM) and temporary benchmarks (TBM), and provide corresponding information for project horizontal and vertical control. Include note describing BM & TBM type, location, elevations and reference datum. Include sheet number referencing where BM & TBM’s are shown on drawings. Use Station datum unless otherwise directed by the Civil Engineering reviewer.

• Design Criteria

• Specific examples of minimum Civil Engineering Design Criteria that must be accommodated in the development of the project design include:

• Storm Drain Hydraulics:

Storm drain systems shall be designed so that the hydraulic grade line (HGL) does not exceed the crown of the pipe. Surcharging may be allowed upon approval of the Civil Reviewer. When surcharging is specifically approved, limit the HGL to no higher than 12 inches (300 mm) below the top or lowest opening of inlets, catch basins, manholes, and other structures. Regardless of hydraulic considerations, do not decrease the conduit size in the direction of the flow.

• Reinforced Concrete Pipe:

Provide structural design of reinforced pipe in accordance with AASHTO using a minimum H20 (for two-axle truck) loading criteria. Use AASHTO HS20 (for tractor truck with semi-trailer) loading criteria where semi-tractor trailers will be encountered.

• Roof Drain Connections:

Provide an air gap between downspout and storm drain header above finished grade. Provide cleanouts within five feet of the building and at a minimum every change in vertical or horizontal alignment. Wherever possible, locate roof drains to directly connect to manholes, catch basins, or other access structures. Roof leaders shall have no more than one 90 degree maximum horizontal deflection between the building and the first structure. Collection headers may be used to connect multiple roof leaders to the storm drain structure.

- **Sanitary Sewer Laterals or Service Lines:**

  Provide a manhole at the collecting sewer main line for the connection of all 6" (150mm) and greater sewer laterals or service lines.

- **Sanitary Sewer Alignment Conditions:**

  Provide cleanout at 5' (1.5 meters) from face of building. Provide first manhole at a maximum of 300 (91.4 meters) feet from cleanout. Provide manholes at every junction with a change in vertical or horizontal alignment or at a maximum spacing of every 300' (90 meters).

- **General Demolition Information:**

  Remove all utility structures within the building footprint. Remove all piping and conduit with a diameter of 6" (150 mm) and greater. Either remove or fill with flowable fill any pipe and conduit less than (150 mm). Remaining pipe and conduit shall be capped.

- **General Utility Information:**

  No Civil Utilities shall be provided under the Building footprint.

- **Pavement and Curbing Information:**

  Curb alignments and Pavement Edge Radius Returns shall be a minimum of 25' (7.6 meters).

• Design Submittals

• Design Development Submittal

In addition to the requirements proscribed in UFC 3-1.2.2 provide the following:

- **Calculations.**

  - Copies of all preliminary sizing calculations as applicable to items shown on the plans. If plans show layout of pumps and tanks within building, then provide calculations as to how those items were sized.

  - Discuss methodology used to develop preliminary calculations, list all assumptions and known conditions.

- **Additional Data**

  A single Civil legend should be provided on one sheet (preferably sheet C-1). See http://www.lantdiv.navfac.navy.mil/servlet/page?_pageid=6108&_dad=lantdiv&_schema=LANTDIV (Click on CI- Design, CadFiles_Details, Civil_Details, English_Details, LEGEND.DWG) for sample legend.

• Design Prefinal Submittal

In addition to the requirements proscribed in UFC 8-1.2.4 provide the following:

- **Calculations.**

  Include calculations to support all utility systems. If a utility is sized based on a previous study, provide applicable portions of that study. Provide pressure & flow test data, proving that pipes are properly sized; service area map showing future/existing areas and projected flows from each area; storm sewer calculations in tabular format similar to that shown in VDOT Drainage Manual; culvert sizing, tailwater/headwater data. Provide revisions to calculations submitted to State Agencies. If computer programs are used, document methodology of program, include data inputs and program results, do not provide print out of program runs. Provide drainage area maps (to scale), with each area highlighted and labeled, include offsite drainage areas.

- **Erosion & Sediment Control Permit Package.**

  LANTDIV is the reviewing agency for erosion and sediment control plans for Federal projects in Virginia. Applications shall be submitted in accordance with the Erosion & Sediment Control Handbook. Submit plans at 100% review to the Civil Reviewer.

• Design Final Submittal

- **Calculations.**

  Include calculations for all design-bid-build and design-build projects to support changes made since the design prefinal submittal.

Cost Engineering Guide

• Introduction

The Appendix “A” defines the scope of A&E services. This Cost Engineering Guide further defines the cost engineering services identified in the Appendix “A” and identifies our technical and submittal requirements for cost engineers.

• Communications

Direct communication with the cost engineering reviewer is encouraged. If you have a question concerning a particular comment, contact your reviewer. This may avoid unnecessary re-submittal of plans, specifications and/or estimate due to a misunderstood comment. The reviewer’s name, phone number, and email address can be found on the comment sheets.

• Cost Engineering Minimum Requirements

• PC Operating System Minimum Requirements

SUCCESS™ is capable of running on any Intel (or Intel compatible) based computer running Microsoft Windows 95/98/ME or greater, or Microsoft Windows NT 4.0 / 2000 / XP or greater. A CD-ROM drive is required for stand-alone installation. SUCCESS™ can be run on any Windows 95/98/ME or Windows NT 4.0 / 2000 / XP or greater compatible network.

• Estimate Format

• General

A SUCCESS™ detailed estimate is required for all projects. A SUCCESS detailed estimate is required for repair and renovation projects with budget construction estimates over $100,000. For projects the “Norfolk Area” templates, NAVFAC reports, and latest CUPB database (also installed from CCB Tools) shall be used whenever possible. Presently, the SUCCESS™ Estimating and Cost Management System may be obtained in two ways:

- **CD-ROM**

  The SUCCESS™ Estimating and Cost Management System is on the Construction Criterion Base (CCB) CD-ROM. THERE IS A FEE FOR A SUBSCRIPTION TO THE CCB. Details may be obtained at http://www.ccb.org/welcome.py

- **Internet**
  The NAVFAC Cost Engineering website allows download of the Success™ software and updates directly from the internet at http://www.uscost.net/CostEngineering/.

- **Instructions For Using Success™**

  Specific instructions are contained in the document "Success Instructions", available at http://www.efdlant.navfac.navy.mil/downl/lantops_04/Success-HT.pdf. This document is updated whenever policy or software changes.

- **Report Updates**

  NAVFAC reports are provided with both the CCB and website versions of SUCCESS™; these reports are configured as part of the installation routine. Updates are periodically posted on the NAVFAC website, and may be downloaded directly.

• Multiple Estimates

Prepare separate estimates for each non-identical building, structure or addition exceeding $100,000 Estimated Construction Cost (ECC). Costs of alteration work to existing buildings will not be included with building additions cost. When one construction contract contains more than one type of work (such as new construction, repair, and equipment installation), the SUCCESS™ estimate format shall provide a subtotal of each type of work in the project and a project total to be shown on a single summary report.

• Organization of the Estimate

- Sort construction work within the estimate in accordance with the Tri Service Work Breakdown Structure (WBS) 3rd level; such as 02 (Superstructure); 02.03 (Stair Construction), 02.03.02 (Exterior Stair Construction). The work items included at the various system levels are stated in the WBS Dictionary, which is installed with the SUCCESS™ software or is available at http://www.efdlant.navfac.navy.mil/downl/lantops_04/wbsdictionary.pdf. Use the Systems Unit of Measure as stated in the WBS dictionary.

- The level of detail in the estimate is expected to correspond to the level of detail on the drawings.

- For CONUS projects, include the following Navy reports with each submittal. (Choose A, B, or C, whichever best represents the project's complexity.)

  A - Summary Report
  B - System Report
  C - Assembly Category Report
  D - Mark-up report
  E - Detail Report Unburdened
  F - Error Report

- Final government estimates are classified 'For Official Use Only'. Access to or disclosure of information regarding the estimate shall be limited to personnel whose official duties require knowledge of the estimate.

- Davis-Bacon Wage Rates are minimum rates for CONUS projects; these rates are incorporated into the Norfolk Area Templates for SUCCESS™. Prevailing wage rates and current construction market conditions affecting the geographic area prices are to be determined by the A&E.

- Provide sufficient information within the estimate to enable the reviewer to verify unit costs without frequent reference to drawings and specifications. Indicate costs that are quotations (prices to a construction contractor). It is not necessary to identify the quotation source in the estimate; however, the A&E should be prepared to identify the quotation source, upon request.

• Cost Estimates for OCONUS Projects

- As indicated in the Appendix A, a detailed computer cost estimate, including electronic disk copy, is required for each submittal using the SUCCESS™ cost estimating system. Unless indicated otherwise, the estimate (including take-off) shall be prepared by an in-country consultant utilizing local pricing for materials, equipment, and labor. The estimate shall be prepared in foreign currency and converted to U. S. dollars using the provided exchange rate.

- A special set of Templates and reports for OCONUS projects have been developed for the SUCCESS™ software. Instructions for Success 4.x (in MS Word format), templates, and reports are all present in the executable file. After downloading, double-click to expand; copy the two templates to the Success\Template subdirectory, and copy the reports to the Success\Reports\Navfac subdirectory. To download, go to http://www.efdlant.navfac.navy.mil/downl/lantops_04/foreign-exchange-files.exe.

- Tax Rates and markups for OCONUS projects should be obtained from an in-country consultant. For Puerto Rico projects, use 40% Taxes and Insurance on Labor, and include a 5% "Municipality Tax" on material, labor, and equipment.

• Pre-Design Services

• 1391 + Preparation

The 1391+ Project Cost is based upon NAVFAC Guidance Unit Costs, DOD Guidance Unit Cost or other historical costs records. It is essential to identify special scope requirements that represent additional costs. Refer to the Team DD1391-plus and Parametric cost estimate (PCE) guidance at http://www.efdlant.navfac.navy.mil/downl/lantops_04/1391plus.pdf

• PCE Preparation

The PCE Project Cost is based on the current scope and Supporting Facilities identified by WBS systems. Refer to the reference listed for 1391+ preparation, above.

• References for 1391+ and PCE Estimating

The following reference is for use in development of the 1391+ and PCE's; this document includes Tri-Service General Notes, Guidance Unit Costs (DOD), Size Adjustment Factors, NAVFAC Escalation Factors, and Area Cost Factors. To view, go to http://www.efdlant.navfac.navy.mil/downl/lantops_04/1391References.pdf.

New for 2003 is the **Electronic Procurement Generator (EPG).** This is a web based 1391 generator that is just being made available for 2004. To access this program, click here https://iefacman.navfac.navy.mil

To register to gain access to EPG, register as an individual. DO NOT Log in using the top box. In the second box, which is the lowest on the page (Labeled ieFACMAN links), click on New User Registration
Fill out all required boxes highlighted in RED. (If browse icon or drop down box is available, use it to select value.)
Input a password, confirm the password and write it down.

For the following fields, use these selections from the pull down menus:

1) for Business Line, use Capital Improvements
2) for Component, use Atlantic Division, NAVFACENGCOM
3) for UIC, click on the browse icon and in the search box type N62470%. The search should return N62470 - LANTNAVFACENGCOM NORFOLK VA, click on that entry.

Go to the Applications section and check the application(s) that you want to access. Choose only EPG, EPG Family Housing or Both. DO NOT choose any other applications.

You will need to fill in the following boxes on the right side of the screen:

1) for Region, use MidAtlantic (for LANT HQ folks or AE's doing work in that area) use NorthEast (for EFA NE area), and use Washington, D.C. (for EFA CHES area)
2) for Major Claimant, use NAVFAC
3) for Organization Level, use EFD/EFA

Click on Submit.
Please allow up to 3 days for the approval process to go through. The AE will receive "Contractor's rights" to the EPG program. However, in order for them to have edit or view rights on a specific 1391, the LANTDIV Team Leader or Project Manager must assign the Contractor to the Team and allow Edit rights.

- **Electronic Spreadsheet for Preparing 1391 and backup.**

An Excel spreadsheet has been created to assist in preparing budget estimating documents. This document has links that tie the 1391, Budget Estimate Summary Sheet, and Facility Development Sheets. It also includes links to Size Adjustment Factors, Escalation Table, and Category Codes. This document is available in the Microsoft Excel format. To view the file (in pdf format): (http://www.efdlant.navfac.navy.mil/downl/lantops_04/1391GeneratorExcel2003.pdf).
Download a functional Excel version at (http://www.efdlant.navfac.navy.mil/downl/lantops_04/1391GeneratorExcel2003.zip).

• Design Services

• Cost Estimate

- The objective of the cost estimate is to guide the designer's "design to cost' discipline and insure, throughout the design phase, that the project's full scope is designed for construction within the available construction funds. The objective may be achieved if the estimate incorporates accurate quantity take-off, use of prevailing costs of material and labor at the project site, and an accurate assessment of the existing construction market conditions.

- Congressionally appropriated construction funding is fixed. Unless directed otherwise by the Project Manager, provide a base bid of approximately 90% of the available construction funds and provide additive items as necessary to complete the full scope within available construction funds. For example:

  If the available construction funding for your project is $1,000,000, you should design the base bid to approximately $900,000 and provide additive bid Items to attain full scope within the available construction funds.

- A government cost estimate, read at bid opening, which is within 10% of the lowest responsible bid, will generally insure an award. When this objective is not met, the A&E may be asked to participate in an immediate determination of the cost differences in order to plan the project's future.

- **Estimates for Change Orders**

Estimates for change orders to the contract plans and specifications shall be accomplished with adequate backup to negotiate. These estimates must use the NAVFAC Form 4330/43.

- An Excel version of this form is available at the following link: http://www.efdlant.navfac.navy.mil/downl/lantops_04/Change_order_spreadsheet.xls. Estimates and summaries must be prepared for both increases and decreases in contract cost. NAVFAC 4330/43 must also be provided for "no-cost" changes.
- A 4330/43 Template for SUCCESS™ and two reports to print out a SUCCESS™ estimate in 4330/43 format, are installed with the standard NAVFAC installation of the software, but are also available from the NAVFAC website or at the following link: http://www.efdlant.navfac.navy.mil/downl/lantops_04/4330_files.zip.

• Design Submittals

Each submittal shall include two hard copies and one electronic copy of the cost estimate. The electronic copy label shall indicate the Construction Contract Number (top line, bold), project title and location, A&E Firm name, submittal identification/date and date of disc scan. The cost estimate level of detail is expected to correspond to the level of detail on the drawings.

- **35% Design Development Submittal.**

The estimate shall identify, by WBS systems, the entire project scope. Design contingency factors, if used, shall be applied at the system level and should rarely appear in estimates greater than 35% design development submittal.

- **100% Submittal (Prefinal).**

Prepare the 100% (prefinal) estimate from 100% (prefinal) drawings and specifications. Obtain material supplier quotations for items with substantial impact upon the total project cost and denote those prices within the estimate.

- **Final Submittal**

Respond to all comments on the 100% Prefinal Submittal. Final Government Estimates are classified "For Official Use Only" prior to bid opening and will be stamped accordingly by Code CI46.

Geotechnical & Paving Design Guide

• Introduction

The Appendix "A" defines the scope of A&E services. The Unified Facilities Criteria (UFC) 1-300-09N ("Design Procedures"), 1-300-10N (Electronic Design Deliverables) and 3-200-10N ("Design: General Civil / Geotechnical / Landscape Requirements") provide guidance for the design and presentation of the required services. This Geotechnical and Paving Design Guide further defines the geotechnical and paving services identified in the Appendix "A" and identifies our technical and submittal requirements for geotechnical and paving engineers doing design work.

• Resources

The branch maintains record files pertaining to the geotechnical aspects of previously constructed projects. Architecture and engineering firms preparing fees, Requests for Proposals (RFP), or designs are encouraged to use this resource to research existing conditions or past design approaches for facilities, structures, or pavements. Viewing or discussion of the files' contents is possible by contacting members of the branch. For design build contractors, any geotechnical or pavement information that is available is attached to the design-build RFP.

• Geotechnical & Paving Design Requirements

• Registered Geotechnical Engineers

The geotechnical engineers participating in the design shall be registered professional engineers and shall be familiar with the geological conditions, geotechnical design approaches, and construction materials used in the location in which they are performing work.

• Design Criteria

The use of the Naval Facilities Engineering Command's design manual series on soil mechanics and foundations (NAVFAC DM-7.1, 7.2 and 7.3) or the UFC-3-220 geotechnical series is recommended. The NAVFAC design manuals and the UFC series can be obtained from the Whole Building Design Guide (WBDG) website (http://www.wbdg.org). However, other published geotechnical texts may also be used in lieu of the NAVFAC design manuals.
The pavement for airfields shall be designed in accordance with the UFC-3-260 series. The pavement for roads, streets, parking, and open storage shall be designed using the Army Corps of Engineers TM-5-822 series.

Pre-Design Services

Field Investigation

General

The A/E shall obtain all site and building data and investigate existing site conditions, utilities, and facilities as necessary to properly integrate the design of the project with the existing conditions. The field investigation shall include complete and accurate site investigation, noting any features or conditions that would influence the design, including topography, groundwater, climatic or tidal action, availability of utility and drainage systems, etc. Applicable existing as-built record drawings and subsurface information from the Geotechnical & Paving Branch record files, when available, will be furnished for information. However, the A/E shall be responsible for field verification of the as-built drawings and other site features that may influence the design of the project.

All site investigations shall be coordinated with the cognizant Public Works Department. The exact location of the geotechnical excavation, whether by drilling or digging, shall be approved by the appropriate authorities, be it the local utility service or by a company hired by the geotechnical engineering firm to 'scope' utilities. During the execution of the field investigation work, the A&E shall be responsible for obtaining necessary permits, and comply with applicable laws, codes, and regulations, including OSHA regulations. The A/E shall be responsible for all damages to persons and property that occur as a result of the A/E's negligence. The A/E shall take proper safety precautions to protect both the public and private interests from physical hazards and unsafe conditions. Upon completion of field investigation, the A/E shall return the property to its original condition.

Geotechnical Investigation

A literature review of the existing borings, pile driving records, physiographic data and geologic maps should be accomplished early in the subsurface investigation program.

Subsurface Exploration

Subsurface investigation and evaluations (including soil borings, test pits, ground penetrating radar surveys, seismic refraction surveys, and electrical resistivity testing) shall be in accordance with ASTM.

Soil Borings

The soil borings and standard penetration tests shall be made in accordance with ASTM D 1586. The ASTM D 1586 procedure shall be modified to make continuous standard penetration and sampling tests for the initial 12 feet of the boring. If drilling techniques are used that prevent the measurement of the water table, install at least two piezometers per drilling site to more accurately measure the depth to the water table. Piezometers are required for storm water pond investigations. Piezometers are not required if there is good evidence that the water table is not within the depth of the borings or zone of influence for the foundation or structure. The driller shall visually classify all soils in accordance with ASTM D 2488. If evidence is discovered indicating soil or groundwater contamination, this should be reported immediately to the project manager or the Geotechnical and Paving Branch. If soft cohesive materials are discovered in the near surface soils, they should be sampled with a thin wall tube for laboratory

testing. Undisturbed sampling shall be performed at the discretion of the Geotechnical Engineer responsible for performing the investigation.

- **Laboratory**

  The minimum laboratory testing shall include grouping like samples and conducting a sieve analysis and Atterberg Limits on one sample from the group. The field logs shall be updated in accordance with ASTM D 2487. Other testing could include moisture contents, California Bearing Ratio, unconfined compressive strength, consolidation testing, triaxial testing, and potential volume change in accordance with FHA No. 595 in suspected expansive clay areas. Some environmental testing of soils may be required just to identify contaminated (predominantly petroleum) soils; however, if major contamination is suspected, the situation will be sent to the Environmental Division for definition.

- **Other Field Testing**

  Projects may require a variety of other testing from percolation tests for septic systems to seismic refraction surveys. In areas of near surface rock, seismic refraction surveys or ground penetrating radar may be required to determine the depth of rock or competent material. Soil resistivity by the Weener 4-pin method should be used when designing underground structures like piping.

- **Geotechnical Report**

  General Report

  Provide a report describing the physiographic and geologic features of the site. Describe the general situation as to topography, ground cover, and any other features that may influence the design. Describe the investigation program, drilling techniques/procedures used. Discuss the soil stratigraphy, materials, and groundwater conditions at the site. The report shall specifically address the groundwater levels expected to be encountered in construction under normal conditions, and any site specific factors (such as tidal action, climate, seasonal flooding or droughts, etc.) that may influence the groundwater levels. Include copies of pertinent U.S. Geological Survey Maps used. The boring logs and laboratory testing results shall be provided on compact disc (CD) in an AUTOCAD compatible format (either .DXF or .DWG) with text size conforming to the Professional Services Guide. An Adobe Acrobat (PDF) version of the geotechnical report shall be included on the CD and two printed copies of the report shall also be submitted.

  Boring Logs

  Show a scaled location plan with the borings located with offsets to existing features. The boring logs shall be in accordance with ASTM D 1586. The laboratory data shall be summarized in tables.

  Foundation and Site Preparation Recommendations

  Discuss the facility under design and make recommendations for the foundation type. Describe and specify the improvements that are required for shallow foundations, such as compaction, removal and replacement, surcharging, wick drains, etc. Describe the soil bearing capacity, pile capacity, pile length, pile type and special instructions such as jetting, pre-drilling and testing required. If

required by the A/E of record, state the pavement design parameters and the pavement design. If the pavement design is to be completed by others, provide design parameters determined from subsurface investigation. If multiple structures are being designed, address structures on an individual basis. Discuss the site preparation and susceptibility to rain and construction equipment.

• Design Services

• Basis of Design

The Basis of Design shall include a paragraph briefly describing the geotechnical investigation program, the recommendations for the site preparation, and the recommendations for the building foundation and/or pavement design.

It is preferred that the geotechnical report be included in the Basis of Design as an appendix. However, the schedule may preclude the completion of the field investigation prior to the submittal of the Basis of Design. If this is the case, describe the assumed basis of design for the foundations and pavement and submit the geotechnical report as soon as possible.

• Calculations

• General Requirements

Generally the geotechnical report will contain the calculations relating to foundation and pavements. However, if the pavement calculations are done by a different consultant, they may appear here or in the civil engineering package.

• Geotechnical and Paving Requirements

The geotechnical calculations normally appear in the geotechnical report; however, they may be in a separate package if another consultant other than the geotechnical consultant prepares the calculations for foundations or pavement. The calculations should indicate the loadings, capacities, the safety factors, and the text from which the calculations were based for the foundation and pavements. Graphs and formulae shall be clearly indicated along with the derivation of curve slopes and data derived from the laboratory testing.

• Drawings

A typical presentation of the borings on drawings is shown in attachment. It includes the logs as they appear in the Geotechnical Report, a summary table of the laboratory testing, notes concerning the drilling, logs, and testing, and any site preparation notes or details. Surcharging details with settlement plates should be shown here.

• Design Submittals

• 35% Design Development Submittal

- **Basis of Design**

  Include the Geotechnical Report as an appendix if available. It is encouraged to have this report at this submittal to obtain any review comments at the earliest possible date.

- **Drawings**

  Boring log drawings are encouraged, but not required, at this submittal.

- **Calculations**

  Submit geotechnical foundation and pavement design calculations if not included in the Geotechnical Report.

- ## 100% Pre-final Submittal

  - **Basis of Design**

    The Geotechnical Report, if modified during the 35% review, shall be re-submitted as an appendix to the Basis of Design, otherwise do not submit.

  - **Drawings**

    The boring log drawing(s) shall be complete. Drawings depicting any special site preparation details should be included.

  - **Calculations**

    Submit any calculations not submitted or that were modified during the 35% submittal. Otherwise, do not submit.

- ## Final Submittal

  - **Final Basis of Design**

    The Geotechnical Report, if modified during the 100% review, shall be re-submitted as an appendix to the Basis of Design, otherwise do not submit.

  - **Drawings**

    All geotechnical drawing(s) shall be complete and signed.

  - **Calculations**

    Submit any calculations not submitted or that were modified during the 100% submittal. Otherwise, do not submit.

• Overseas Requirements

- ## Geotechnical Report

  The Geotechnical Report shall be translated into English.

- **Drawings**

  The boring logs shall be shown in two languages, English and the country of bidding and construction.

Specifications Guide

• Introduction

The Appendix “A” defines the scope of AE services. This Specification Guide further defines the specification services identified in the Appendix “A” and identifies the technical and submittal requirements for specification writers doing work for NAVFAC Atlantic.

• Communications

Direct communication with the NAVFAC Atlantic specification reviewers is encouraged. If you have a question concerning a particular comment, contact your NAVFAC Atlantic reviewer. This may avoid re-submittal of plans and specifications due to a misunderstood comment. The reviewer’s name, phone number and email address can be found on the comment sheets.

• Specification Requirements

• General Requirements for the Preparation of Project Specification

The project specifications form a part of the contract documents. Format and general instructions for the preparation of project specifications are provided in UFC 1-300-09N, Design Procedures. Specifications are required to be in SpecsIntact system format, based on Unified Facilities Guide Specifications (UFGS), edited and supplemented to suit the particular project. The specifications shall be as brief as possible, definitive, and free of ambiguities and omissions that might result in controversies and contractor claims for additional compensation. Further information on the preparation of specifications is provided in the “Specification Preparation Manual” (SPM), which is available on the NAVFAC Atlantic Spec Support page.

• SpecsIntact System and CCB

The Construction Criteria Base (CCB), available through the National Institute of Building Sciences (NIBS), is an extensive database of construction-related standards, specifications, manuals, and other documents available on CD and DVD. Information on obtaining subscriptions to the Construction Criteria Base (CCB) may be obtained from the following:

National Institute of Building Sciences
Attn CCB
1090 Vermont Avenue, NW, Suite 700
Washington DC 20005-4905

Telephone: 202-289-7800
Fax: 202-289-1092
Internet: www.nibs.org
Email: nibs@nibs.org

SpecsIntact is the word processing software used to edit the UFGS. SpecsIntact is available on CCB, or it can be downloaded directly from the SpecsIntact website.

- **Guide Specifications**

  Use guide specifications of the Unified Facilities Guide Specifications (UFGS) series in the preparation of project specifications. The UFGS replaces the Navy and Army guide specification databases by combining these two databases into one. The UFGS are available for viewing and download from the UFGS website. Electronic copies of the UFGS are available on CCB and on the Internet as described herein. Any hard copy required by the AE may be printed from either source. NAVFAC Atlantic Regional Guide specifications are available on the Regional Guide Specifications page on the NAVFAC Criteria website. These guides are also available on CCB. Sample specifications developed by NAVFAC Atlantic are available on the NAVFAC Atlantic Spec Support page. The AE shall carefully edit, modify, and supplement these sections and prepare additional sections in the same format to ensure they are coordinated with the project design. The latest guides, the "UFGS" series, should be considered as standards for format where they differ from earlier guides.

  NOTE: It is imperative that the AE discuss the UFGS and SpecsIntact with the Specifications Branch Head prior to beginning any specification preparation so that an agreement can be reached regarding the proper version of SpecsIntact and the UFGS to use for a specific project.

- **Interim Specification Revisions (ISR)**

  The Specifications and Cost Engineering Branch at NAVFAC Atlantic maintains a document known as the Interim Specification Revisions (ISR) which is published within the Specification Preparation Manual. This document indicates changes required in specific Unified Facilities Guide Specification sections until such changes are incorporated in the master guide specifications. It is mandatory that these changes be incorporated into all project specification sections. The "Specification Preparation Manual" (SPM) is available on the NAVFAC Atlantic Spec Support page.

• Design Services

UFC 1-300-09N, Design Procedures, provides general policy and standards for design of Naval shore facilities, and requirements related to the development of drawings and specifications. Adherence to the requirements of this UFC is mandatory.

- **Proper Phraseology and Terminology for Contract Specifications**

  The project specifications are a part of the contractual agreement between the Government and the Contractor. As with any legal document, terminology and phraseology are very important. Use of similar though incorrect words or phrases can hold serious legal ramifications when a dispute arises between the two parties. UFC 1-300-02, Unified Facilities, Guide Specifications (UFGS) Format Standard provides valuable guidance in this regard.

- **Standard Plates, Sketches, and Details**

  Plates, sketches, boring logs, and details shall be provided on the drawings and not in the specifications.

- **Bid Items (Additives and Options)**

Bid items are not required if the project cost estimate is clearly within the funds available. However, if the estimated construction cost exceeds the project budget, additive bid items or option items may need to be established by the AE in conjunction with the PM and the station in order to ensure that an award can be made within the available funds

In composing bid items, the "base bid" must provide a usable facility. Work increments for additive bid items and option items should be selected which can logically be separated from the project without rendering the facility unusable. It is intended that the "base bid", together with all the bid items, will provide the maximum usable facility for the funds available.

- **Additive Bid Items**

  Additive bid items shall be arranged such that the most essential portion of the work is added first. Succeeding items are arranged in decreasing importance. During evaluation of the bids, additive items are added to the base bid in the order listed. As each additive item is added, a new bid price is computed and compared to the available funds. As additive items are determined to be within the funds available they are added to the Contractor's bid price. If they are not within the funds available they are skipped. Each additive bid item shall be independent of the others.

- **Option Items**

  When funding is not available to cover certain portions of the work at the time of bid opening, but there exists a high probability of attaining the funding in the near future, option items provide a means to obtain and hold competitive bid prices for these items of work. Typically, the bid price for the option item(s) is added to the base bid price to determine the low bidder. Options need not be listed in a particular order. They are executed individually at the Government's discretion. A time limit is given in the contract documents for the Government's right to execute each option. Use of options in construction contracts must be approved by the Contracting Officer prior to advertisement. Option items and additive bid items shall not be mixed on a single construction contract.

The number of bid items and the estimated cost per item will depend upon the nature of the project. There shall be no more than four bid items without specific approval of the Contracting Officer. Each estimated additive increment should tend to approximate 2% to 10% of the estimated base bid. Bid items shall not be indicated on the drawings or referenced anywhere in the specifications without prior approval of NAVFAC Atlantic Specifications Branch. Do not use the term "alternate" to represent bid items. Do not use the term "base bid" to indicate items in the primary bid item. Deductive bid items are not permitted.

• DesignBuild

For all DesignBuild (DB) projects, except EFA MED projects, use the format and content provided on the NAVFAC Design-Build website in the preparation of the DB Request For Proposal (RFP). All necessary files are available for download from the website. The website also offers tutorial information concerning the RFP format and content.

• Combining Projects

There are times when it is advantageous for the Government to combine multiple designs into a single construction contract. This can be done in one of two ways. The projects can be combined early on in the design process such that a seamless set of plans and

specifications are created. The danger with this methodology is that the projects are very difficult to separate if funding, scheduling, or other problems arise.

The second, and generally preferred method, is to design the projects as if they were separate contracts. To put the projects together, one construction contract number is selected and used on all drawings and the cover sheets of all specifications. Each project has a separate technical specification (Divisions 02-16) with its own specification number. A single “front end” (Divisions 00 and 01) is created for the combined project. The benefit of combining by this method is that the projects can be easily separated if desired.

Contact the Specifications Branch for specific instructions and examples concerning the combination of projects if this contracting method is being considered.

• Post Design Services

• Amendments

After release of the contract documents, and prior to bid opening or receipt of proposals, formal changes to the solicitation are made by amendments. Terminology and layout of amendments are of critical importance to ensure clarity of the final contract documents. All amendments shall be coordinated through the Specifications Branch. Amendments may be created in Word or in SpecsIntact. Any full specification section, either new or replacement, shall be created in SpecsIntact. Amendments may include new or revise drawings. These shall be prepared on standard NAVFAC Atlantic drawforms. If sketches are required, obtain sketch templates form NAVFAC Atlantic. Available are both a full size sketch sheet and an 8 ½” X 11” sketch page. Amendments shall be provided both in electronic and in hard copy. Prior to submittal of an amendment, contact the Specifications and Cost Engineering Branch to determine the number of the amendment. The following sample amendment illustrates the format and terminology desired:

CONTINUATION SHEET

DIVISION 00 DOCUMENTS

DOCUMENT 00102 LIST OF DRAWINGS

1.2 CONTRACT DRAWINGS

NAVFAC Dwg. Nos. 4376950 and 4376951 are added to the list of drawings and accompany this amendment.

NAVFAC Dwg. Nos. 4376308, 4376309, 4376310, 4376311, 4376312, 4376313, 4376314, 4376315, and 4376316 are revised as of March 17, 1998. These revised sheets accompany this amendment.

Sketches SK-05-97-7040-1 and SK-97-7040-2 are added to the list of drawings. These sketches accompany this amendment.

On NAVFAC Dwg. No. 4376290 (T-1)

General Notes: Delete Note 1 in its entirety and replace with the following: "1. One lane of Williamsburg Road shall remain open at all times."

PROJECT TABLE OF CONTENTS

Section 02457, "Steel Sheet Piles", is added to the Table of Contents and accompanies this amendment.

Delete sections 16050, 16303, and 16520 in their entirety and replace with Sections "16050X, Basic Electrical Materials and Methods", "16303X, Underground Electrical Work", and "16520X, Exterior Lighting". Sections 16050X, 16303X, and 16520X accompany this amendment.

DIVISION 01 GENERAL REQUIREMENTS

SECTION 01500 TEMPORARY FACILITIES AND CONTROLS

1.3 CONSTRUCTION SITE PLAN

Delete this paragraph in its entirety.

1.4 STORAGE AREAS

At the beginning of this paragraph add the following: "Contractor shall be responsible for security of his own property."

1.4.1 Storage in Existing Buildings

Delete this paragraph in its entirety and replace with the following:

"1.4.1 Laydown Area

The enclosed site available for storage shall be located at the North side of the building near the Lobby's North entrance.

1.4.2 Material Storage

The Contractor will be working in and around an occupied building. The storage of materials unless approved by the Contracting Officer will not be allowed in the building."

DIVISION 16 ELECTRICAL

SECTION 16402 INTERIOR DISTRIBUTION SYSTEM

2.2.1 Surface Non-metallic Raceway

After the text "snap cover type", add "color shall be white."

3.1.3.1 Workmanship

After this paragraph, add the following:

"3.2 FIELD QUALITY CONTROL

Furnish test equipment and personnel, and submit written copies of test results. Give Contracting Officer five working days notice prior to each test.

3.2.1 Devices Subject to Manual Operation

Each device subject to manual operation shall be operated at least five times, demonstrating satisfactory operation five out of five times."

-- End of Amendment –

- **Change Orders**

  After contract award, changes to the contract documents are made by change order. If prepared officially by the AE, the format of a change order is the same as an amendment with the exception of a different header on the first sheet and different footers. Change orders may be created in Word or SpecsIntact. Any full specification section, either new or replacement, shall be prepared in SpecsIntact. See the previous paragraph, “Amendments”, for direction on drawings and sketches. Change orders shall be submitted both in electronic and hard copy. The following sample change order illustrates the format desired:

N62470-96-C-6042

NAVFAC
SPECIFICATION NO.
05966042
PROPOSED CHANGE

TACTICAL SUPPORT VAN PAD

AT THE

MARINE CORPS AIR STATION, NEW RIVER
JACKSONVILLE, NORTH CAROLINA

DIVISION 00 DOCUMENTS

DOCUMENT 00102 LIST OF DRAWINGS

1.2 CONTRACT DRAWINGS

On NAVFAC Dwg. No. 4369801 (C-15)

Van Pad Pavement Detail A/C12/C12: Change "(5.2 Mpa FLEXURAL STRENGTH)" to read "(4481 kPa FLEXURAL STRENGTH)".

DIVISION 02 SITE WORK

SECTION 02762 JOINTS, REINFORCEMENT, AND MOORING EYES IN CONCRETE PAVEMENTS

3.3.7 Dowel Assemblies

Delete the first sentence of this paragraph.

-- End of Proposed Change Order –

• Design Submittals

• Submittal Requirements

UFC 1-300-09N, Design Procedures provides a complete list of submittal requirements for both Design-Build and Design-Bid-Build project design submittals.

• Responding to Review Comments

The AE is responsible for the resolution and incorporation of government comments into the project design. At each submittal, previous review comments shall be returned with each comment addressed. If the comment was incorporated into the design, a response shall so indicate. If the comment was not incorporated, an explanation shall be provided for not doing so. The NAVFAC Atlantic reviewer shall be contacted to discuss any comment that will not be incorporated, for whatever reason.

• 35% Design Development Submittal

Before starting work on project specifications, the AE personnel who prepare the project specification shall confer as necessary with the NAVFAC Atlantic Specifications Branch to ensure a clear understanding of current Government requirements. All AEs starting their first project for NAVFAC Atlantic shall confer with the Specifications and Cost Engineering Branch before starting any work. AEs shall obtain the document entitled "Specification Preparation Manual" (SPM) available on the NAVFAC Atlantic Spec Support page. This document shall be thoroughly studied prior to the preparation of project specifications.

• 100% Prefinal Submittal

Specifications shall be prepared using the SpecsIntact software with the NAVFAC Atlantic guide specifications. Do not translate to another software. For the 100% submittal of the specification, **marked specifications are not acceptable**. 100% specifications shall be edited in SpecsIntact using the redlining feature and shall be submitted with this feature visible. Follow the procedures in Chapter 3, "Instructions to A&E's and Typists" in the SPM. All specifications shall be bound in one single volume, if feasible. A submittal register shall be provided with the 100% submittal. A completed Project Information Form (PIF), available on the NAVFAC Atlantic Spec Support page, shall also be provided.

• Final Submittal

The final submittal to NAVFAC Atlantic shall include the previously marked specifications and/or comment sheets, the final specification in SpecsIntact format, the submittal register program, a final PIF, and the final specification in .pdf format ready for Electronic Bid Solicitation. Scan all computer disks for viruses using commercial virus scanning software prior to submittal.

• Environmental Submittal Requirements (Asbestos, Lead Containing Paint, PCB's, Petroleum, etc.)

Many projects include special requirements due to the presence of environmentally sensitive materials. As part of the AE contract, investigations are conducted to determine the presence, levels, and limits of sensitive materials. Reports are then provided by the investigative firm and the information is used in the design of the project. It is important for the Government to provide this information to the contractor as part of the contract documents. Reports should be made part of the contract specifications by including them at the end of the appropriate specification section, i.e. the asbestos report would be placed at the end of Section 13281, "Engineering Control of Asbestos Containing Materials". If there is a question as to the logical location for a report within the specification, contact the head of the Civil/Structural/Environmental section of the Specifications Branch at (757) 322-4307. As part of the final specification submittal, provide an electronic copy of all reports included in the specification either in Word or SpecsIntact. This requirement is necessitated by NAVFAC Atlantic's use of electronic bid sets for the release of all contract documents.

• Overseas Requirements

• Specifying Foreign Materials

For overseas projects (except Puerto Rico and Guantanamo Bay, Cuba) the "Buy American Act" does not apply. Therefore, specifications shall be written to reflect the use of local materials, standards and codes, except that projects in Iceland and the Azores shall be specified using U.S. Standards. The AE shall comply with the specific instructions provided in the Appendix "A" for each project.

• EFA Med

▪ General

Materials shall be specified using current local standards to the maximum extent possible. U.S. Standards are allowable only under the following conditions:

1. Standard is recognized and used in the country in which the project is located.
2. Only U.S. products are acceptable for the item in question.

Use Section 01015, "Special Conditions for Projects in the Mediterranean Area," which is available on CCB or from the UFGS website.

▪ Design-Build

For Design-Build (DB) projects in the EFA MED area of responsibility, use the format and content provided on the NAVFAC Design-Build website in the preparation of the DB Request For Proposal (RFP), except as indicated herein.

Part 2 - Supplement the UFGS available on the NAVAC Design-Build website with region specific Division 01 sections from the Italian and Spanish specifications databases available on the NAVFAC Atlantic Spec Support page.

Part 3 – Use the Project Program template available on the NAVFAC Design-Build website.

Part 4 – **Do not use Performance Technical Specifications from the NAVFAC Design-Build website.** These sections utilize U.S. industry standards. Use Section 01958, Design-Build Criteria – EFA MED", available on the NAVFAC Atlantic Spec Support page.

Part 5 – See NAVFAC Design-Build website.
Part 6 – See NAVFAC Design-Build website.

- **Italy**

  NAVFAC Atlantic has created a database of guide specifications for use in Italy. The Italian Guide Specification (IGS) database is available on the NAVFAC Atlantic Spec Support page.

  AE shall make maximum use of the IGS database for Italian projects. If the AE does not find needed sections in the database, the AE shall regionalize the current UFGS, incorporating all ISR changes.

- **Spain**

  NAVFAC Atlantic has compiled a database of sample specification sections from recent projects in Spain for use in the development of future Spanish project specifications. The Spanish Sample Specifications (SSS) database is available on the NAVFAC Atlantic Spec Support page. **These are NOT guide specifications.** However, they do provide reasonably well-developed, regionalized specifications for use in the development of project specifications in Spain.

  AE shall make maximum use of the SSS database for Spanish projects. If the AE does not find needed sections in the database, the AE shall regionalize the current UFGS, incorporating all ISR changes.

- **Azores**

  Use standard UFGS to create project specifications, except that electrical systems and equipment shall be specified for operation at European power and frequency. AE shall regionalize the current UFGS specifications for electrical systems and equipment. Contact the Specifications Branch at (757) 322-4303 for other sample specifications used in the Azores. Section 01014, "Special Conditions for Azores Projects", is available on the UFGS website. Section 00120, "Supplementary Instructions to Bidders", is available on the NAVFAC Atlantic Spec Support page, and is required on all Azores projects.

- **Iceland**

  Use standard UFGS to create project specifications. Section 01013, "Special Conditions for Iceland", is available on the UFGS website. Determine from the project manager if the project will be standard IPC negotiated, National Competitive Bid (NCB), or International Competitive Bid (ICB). Contact the Specifications and Cost Engineering Branch for special requirements on NCB and ICB projects, and for sample specifications used in Iceland.

- **England**

  AE shall use guide specification database provided by Public Works London. AE shall coordinate with EFA MED project manager to obtain these guide specifications.

- **Guantanamo Bay, Cuba**

Use standard UFGS to create project specifications. Section 01011, “Special Conditions for Guantanamo Bay”, is available on the UFGS website. Contact the Specifications Branch for sample specification sections used in Guantanamo Bay.

- **Puerto Rico**

  Use standard UFGS to create project specifications. Incorporate appropriate paragraphs in accordance with criteria notes in the guide specification sections.